

# Wilcoxon Signed Ranks test.

KEEL non-parametric statistical module

May 9, 2011

## 1 Detailed results for 1R

### 1.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
Ameva	313.0	507.0	$\geq 0.2$	1
Bayesian	780.0	0.0	3.638E-12	0
CACC	469.0	351.0	$\geq 0.2$	0.423072
CADD	218.0	602.0	$\geq 0.2$	1
CAIM	278.0	502.0	$\geq 0.2$	1
Chi2	229.0	591.0	$\geq 0.2$	1
ChiMerge	270.5	509.5	$\geq 0.2$	1
ClusterAnalysis	758.5	61.5	2.1580000000000001E-7	0.000003
DIBD	197.5	582.5	$\geq 0.2$	1
Distance	92.0	728.0	$\geq 0.2$	1
EqualFrequency	497.0	323.0	$\geq 0.2$	0.23955
EqualWidth	343.0	437.0	$\geq 0.2$	1
Extended Chi2	325.0	495.0	$\geq 0.2$	1
FFD	726.0	94.0	4.932E-6	0.000021
FUSINTER	270.0	550.0	$\geq 0.2$	1
HDD	792.0	28.0	2.698E-9	0
HellingerBD	404.0	376.0	$\geq 0.2$	0.839645
Heter-Disc	33.0	750.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	780.0	3.0	7.276E-11	0
Khiops	370.0	450.0	$\geq 0.2$	1
MDLP	140.0	680.0	$\geq 0.2$	1
Modified Chi2	567.0	253.0	0.0344	0.033658
MODL	676.0	144.0	1.9334E-4	0.000341
MVD	141.0	639.0	$\geq 0.2$	1
PKID	709.0	111.0	1.95E-5	0.000057
UCPD	195.0	625.0	$\geq 0.2$	1
USD	820.0	0.0	1.819E-12	0
Zeta	283.0	497.0	$\geq 0.2$	1

Table 1: Results obtained by the Wilcoxon test for algorithm 1R

### 1.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
Ameva	[-3.35 , 73.4]	0.90276
Bayesian	[-598.65 , -193.1]	0.90276
CACC	[-39.4 , 21.3]	0.90276
CADD	[10.3 , 103.45]	0.90276
CAIM	[-0.85 , 79.65]	0.90276
Chi2	[8.3 , 94.7]	0.90276
ChiMerge	[-0.2 , 84.6]	0.90276
ClusterAnalysis	[-844.55 , -132.75]	0.90276
DIBD	[6.45 , 79.05]	0.90276
Distance	[21.65 , 159.95]	0.90276
EqualFrequency	[-37.5 , 13.7]	0.90276
EqualWidth	[-7.65 , 49.5]	0.90276
Extended Chi2	[-6.65 , 43.7]	0.90276
FFD	[-131.45 , -25.35]	0.90276
FUSINTER	[1.35 , 133.6]	0.90276
HDD	[-1,777.5 , -367]	0.90276
HellingerBD	[-18.1 , 26.35]	0.90276
Heter-Disc	[37.9 , 175.9]	0.90276
ID3	[-1,443.95 , -401.2]	0.90276
IDD	[-140.65 , -42.45]	0.90276
Khiops	[-9.15 , 75.35]	0.90276
MDLP	[16.85 , 154.05]	0.90276
Modified Chi2	[-34.75 , -4.3]	0.90276
MODL	[-78.05 , -14]	0.90276
MVD	[22.9 , 168.95]	0.90276
PKID	[-82.6 , -38.65]	0.90276
UCPD	[14.5 , 152.4]	0.90276
USD	[-563 , -204.8]	0.90276
Zeta	[-1.85 , 75.7]	0.90276

Table 2: Confidence intervals for algorithm 1R ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
Ameva	[-4.85 , 87.55]	0.95024
Bayesian	[-817.9 , -175.3]	0.95024
CACC	[-52.5 , 27.35]	0.95024
CADD	[7.1 , 137.1]	0.95024
CAIM	[-3 , 92.9]	0.95024
Chi2	[5.5 , 130.45]	0.95024
ChiMerge	[-2 , 106.7]	0.95024
ClusterAnalysis	[-887.5 , -115.5]	0.95024
DIBD	[4.9 , 95.2]	0.95024
Distance	[18.95 , 169.75]	0.95024
EqualFrequency	[-42 , 21.2]	0.95024
EqualWidth	[-9.3 , 56.75]	0.95024
Extended Chi2	[-10.4 , 52.05]	0.95024
FFD	[-143.9 , -22.8]	0.95024
FUSINTER	[-0.75 , 145]	0.95024
HDD	[-2,265.25 , -269.85]	0.95024
HellingerBD	[-21.65 , 31.15]	0.95024
Heter-Disc	[35.7 , 189]	0.95024
ID3	[-1,828.65 , -361.6]	0.95024
IDD	[-181.35 , -39.7]	0.95024
Khiops	[-11.1 , 90.45]	0.95024
MDLP	[13.45 , 164.2]	0.95024
Modified Chi2	[-40.35 , -1.15]	0.95024
MODL	[-89.3 , -12.1]	0.95024
MVD	[18.3 , 181.6]	0.95024
PKID	[-91.6 , -36.8]	0.95024
UCPD	[10.1 , 174.45]	0.95024
USD	[-778.9 , -193.75]	0.95024
Zeta	[-3.8 , 87.6]	0.95024

Table 3: Confidence intervals for algorithm 1R ( $\alpha=0.95$ )

## 2 Detailed results for Ameva

### 2.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	507.0	313.0	0.19686	0.189273
Bayesian	770.0	50.0	5.724E-8	0.000001
CACC	504.5	315.5	$\geq 0.2$	0.420048
CADD	191.0	629.0	$\geq 0.2$	1
CAIM	63.0	728.0	$\geq 0.2$	1
Chi2	315.5	504.5	$\geq 0.2$	1
ChiMerge	18.0	802.0	$\geq 0.2$	1
ClusterAnalysis	778.0	2.0	1.0914E-11	0
DIBD	143.0	637.0	$\geq 0.2$	1
Distance	33.5	786.5	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	559.5	260.5	$\geq 0.2$	0.250503
Extended Chi2	331.0	489.0	$\geq 0.2$	1
FFD	758.0	62.0	2.276E-7	0.000003
FUSINTER	494.0	326.0	$\geq 0.2$	0.255245
HDD	747.0	36.0	7.244E-8	0.000002
HellingerBD	603.5	181.5	0.02811	0.027856
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	815.0	5.0	1.819E-11	0
IDD	714.5	105.5	1.2714E-5	0.000039
Khiops	628.0	192.0	0.00277	0.003315
MDLP	193.0	587.0	$\geq 0.2$	1
Modified Chi2	618.0	202.0	0.004444	0.004997
MODL	638.0	182.0	0.0016824	0.002131
MVD	121.0	699.0	$\geq 0.2$	1
PKID	803.0	17.0	3.766E-10	0
UCPD	353.0	467.0	$\geq 0.2$	1
USD	766.0	14.0	4.002E-10	0
Zeta	76.5	720.5	$\geq 0.2$	1

Table 4: Results obtained by the Wilcoxon test for algorithm Ameva

### 2.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-73.4 , 3.35]	0.90276
Bayesian	[-745.3 , -212.4]	0.90276
CACC	[-51.4 , 1.45]	0.90276
CADD	[5.25 , 24.4]	0.90276
CAIM	[1.5 , 5.7]	0.90276
Chi2	[-2.35 , 25.9]	0.90276
ChiMerge	[2.1 , 8.5]	0.90276
ClusterAnalysis	[-1,100.55 , -164.05]	0.90276
DIBD	[3.85 , 13.75]	0.90276
Distance	[9.4 , 38.4]	0.90276
EqualFrequency	[-57.8 , -25.65]	0.90276
EqualWidth	[-27 , -1]	0.90276
Extended Chi2	[-2.8 , 19.1]	0.90276
FFD	[-200.1 , -48.75]	0.90276
FUSINTER	[-17.5 , 4.35]	0.90276
HDD	[-1,922.05 , -351.65]	0.90276
HellingerBD	[-35.25 , -7.65]	0.90276
Heter-Disc	[21.9 , 49.6]	0.90276
ID3	[-1,633.15 , -420.15]	0.90276
IDD	[-311.6 , -43.7]	0.90276
Khiops	[-53.05 , -9.25]	0.90276
MDLP	[3.4 , 23.15]	0.90276
Modified Chi2	[-59.85 , -11.8]	0.90276
MODL	[-120.95 , -13.5]	0.90276
MVD	[5.55 , 29.5]	0.90276
PKID	[-217.35 , -82.85]	0.90276
UCPD	[-3.25 , 24.7]	0.90276
USD	[-714.55 , -222.25]	0.90276
Zeta	[0.5 , 1.9]	0.90276

Table 5: Confidence intervals for algorithm Ameva ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-87.55 , 4.85]	0.95024
Bayesian	[-983.4 , -178.45]	0.95024
CACC	[-60.45 , 2.65]	0.95024
CADD	[4.4 , 28.95]	0.95024
CAIM	[1.45 , 7.15]	0.95024
Chi2	[-4.25 , 30.75]	0.95024
ChiMerge	[2 , 9.25]	0.95024
ClusterAnalysis	[-1,204.75 , -153.8]	0.95024
DIBD	[3.3 , 15.25]	0.95024
Distance	[8.2 , 40.85]	0.95024
EqualFrequency	[-65.45 , -23.9]	0.95024
EqualWidth	[-35.65 , 0]	0.95024
Extended Chi2	[-6.2 , 21.45]	0.95024
FFD	[-252.8 , -44.15]	0.95024
FUSINTER	[-19.5 , 7.6]	0.95024
HDD	[-2,445.4 , -302.5]	0.95024
HellingerBD	[-42.9 , -4.6]	0.95024
Heter-Disc	[19.55 , 53.7]	0.95024
ID3	[-2,080.8 , -382.55]	0.95024
IDD	[-364.85 , -39.3]	0.95024
Khiops	[-64.95 , -8.1]	0.95024
MDLP	[2.7 , 25.15]	0.95024
Modified Chi2	[-67.1 , -9.15]	0.95024
MODL	[-137.55 , -9.8]	0.95024
MVD	[4.4 , 31.35]	0.95024
PKID	[-268 , -76.95]	0.95024
UCPD	[-4 , 29]	0.95024
USD	[-937.4 , -212.4]	0.95024
Zeta	[0.2 , 2]	0.95024

Table 6: Confidence intervals for algorithm Ameva ( $\alpha=0.95$ )

### 3 Detailed results for Bayesian

#### 3.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	0.0	780.0	$\geq 0.2$	1
Ameva	50.0	770.0	$\geq 0.2$	1
CACC	55.0	765.0	$\geq 0.2$	1
CADD	27.0	793.0	$\geq 0.2$	1
CAIM	33.0	787.0	$\geq 0.2$	1
Chi2	50.0	770.0	$\geq 0.2$	1
ChiMerge	31.0	789.0	$\geq 0.2$	1
ClusterAnalysis	451.0	369.0	$\geq 0.2$	0.576972
DIBD	15.0	805.0	$\geq 0.2$	1
Distance	11.0	809.0	$\geq 0.2$	1
EqualFrequency	159.0	661.0	$\geq 0.2$	1
EqualWidth	108.0	712.0	$\geq 0.2$	1
Extended Chi2	79.0	741.0	$\geq 0.2$	1
FFD	178.0	642.0	$\geq 0.2$	1
FUSINTER	59.0	761.0	$\geq 0.2$	1
HDD	704.0	116.0	2.844E-5	0.000075
HellingerBD	127.0	693.0	$\geq 0.2$	1
Heter-Disc	0.0	780.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	21.0	759.0	$\geq 0.2$	1
Khiops	121.0	699.0	$\geq 0.2$	1
MDLP	32.0	788.0	$\geq 0.2$	1
Modified Chi2	151.0	669.0	$\geq 0.2$	1
MODL	53.0	767.0	$\geq 0.2$	1
MVD	25.0	795.0	$\geq 0.2$	1
PKID	196.0	624.0	$\geq 0.2$	1
UCPD	55.0	765.0	$\geq 0.2$	1
USD	454.0	366.0	$\geq 0.2$	0.549748
Zeta	41.0	779.0	$\geq 0.2$	1

Table 7: Results obtained by the Wilcoxon test for algorithm Bayesian

#### 3.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[193.1 , 598.65]	0.90276
Ameva	[212.4 , 745.3]	0.90276
CACC	[148.35 , 741.8]	0.90276
CADD	[183.6 , 743.95]	0.90276
CAIM	[214.95 , 746.85]	0.90276
Chi2	[215.2 , 610.2]	0.90276
ChiMerge	[216.1 , 746.85]	0.90276
ClusterAnalysis	[-86.2 , 44]	0.90276
DIBD	[216.3 , 749.45]	0.90276
Distance	[227 , 753.5]	0.90276
EqualFrequency	[105.85 , 625.5]	0.90276
EqualWidth	[138.4 , 691]	0.90276
Extended Chi2	[136.75 , 472.6]	0.90276
FFD	[45.5 , 538.7]	0.90276
FUSINTER	[197.15 , 732.1]	0.90276
HDD	[-637.3 , -136.9]	0.90276
HellingerBD	[129.65 , 645.05]	0.90276
Heter-Disc	[233.5 , 768]	0.90276
ID3	[-537.5 , -160.8]	0.90276
IDD	[146.9 , 464]	0.90276
Khiops	[140.85 , 716.7]	0.90276
MDLP	[219.9 , 746.05]	0.90276
Modified Chi2	[66.6 , 322]	0.90276
MODL	[122.4 , 385.15]	0.90276
MVD	[220.85 , 748.2]	0.90276
PKID	[33.7 , 644.6]	0.90276
UCPD	[213.05 , 746.75]	0.90276
USD	[-12.85 , 23.1]	0.90276
Zeta	[214.8 , 746.85]	0.90276

Table 8: Confidence intervals for algorithm Bayesian ( $\alpha=0.90$ )



$\alpha=0.95$	Confidence interval	Exact confidence
1R	[175.3 , 817.9]	0.95024
Ameva	[178.45 , 983.4]	0.95024
CACC	[125.25 , 852.35]	0.95024
CADD	[153.7 , 968.85]	0.95024
CAIM	[197.85 , 983.4]	0.95024
Chi2	[192.85 , 802.7]	0.95024
ChiMerge	[201.7 , 983.4]	0.95024
ClusterAnalysis	[-116.8 , 77.5]	0.95024
DIBD	[205.35 , 1,004.65]	0.95024
Distance	[216.65 , 1,000.1]	0.95024
EqualFrequency	[75.3 , 736.4]	0.95024
EqualWidth	[100.7 , 907.85]	0.95024
Extended Chi2	[113.7 , 514.55]	0.95024
FFD	[34.4 , 625.9]	0.95024
FUSINTER	[179.3 , 993.3]	0.95024
HDD	[-735.65 , -109.3]	0.95024
HellingerBD	[91 , 762.65]	0.95024
Heter-Disc	[219 , 1,024.85]	0.95024
ID3	[-569.25 , -148]	0.95024
IDD	[118.85 , 634.1]	0.95024
Khiops	[97.5 , 935.55]	0.95024
MDLP	[190.6 , 966.8]	0.95024
Modified Chi2	[47.15 , 385.9]	0.95024
MODL	[108.4 , 440.35]	0.95024
MVD	[214.55 , 1,001.6]	0.95024
PKID	[19.65 , 828.45]	0.95024
UCPD	[194.1 , 1,014.35]	0.95024
USD	[-14.85 , 31.1]	0.95024
Zeta	[183.65 , 983.4]	0.95024

Table 9: Confidence intervals for algorithm Bayesian ( $\alpha=0.95$ )

## 4 Detailed results for CACC

### 4.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	351.0	469.0	$\geq 0.2$	1
Ameva	315.5	504.5	$\geq 0.2$	1
Bayesian	765.0	55.0	1.0366E-7	0.000002
CADD	214.0	606.0	$\geq 0.2$	1
CAIM	302.5	517.5	$\geq 0.2$	1
Chi2	330.0	490.0	$\geq 0.2$	1
ChiMerge	291.5	528.5	$\geq 0.2$	1
ClusterAnalysis	689.0	91.0	7.486E-6	0.000029
DIBD	197.5	622.5	$\geq 0.2$	1
Distance	162.0	618.0	$\geq 0.2$	1
EqualFrequency	488.0	332.0	$\geq 0.2$	0.29136
EqualWidth	420.5	399.5	$\geq 0.2$	0.882064
Extended Chi2	363.0	457.0	$\geq 0.2$	1
FFD	557.0	263.0	0.04816	0.047413
FUSINTER	380.0	440.0	$\geq 0.2$	1
HDD	738.0	42.0	4.138E-8	0.000001
HellingerBD	440.0	380.0	$\geq 0.2$	0.68133
Heter-Disc	1.5	818.5	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	467.5	352.5	$\geq 0.2$	0.434857
Khiops	444.0	336.0	$\geq 0.2$	0.445338
MDLP	245.0	535.0	$\geq 0.2$	1
Modified Chi2	479.0	341.0	$\geq 0.2$	0.350216
MODL	507.0	313.0	0.19686	0.188528
MVD	172.5	647.5	$\geq 0.2$	1
PKID	587.0	233.0	0.016506	0.016855
UCPD	255.0	565.0	$\geq 0.2$	1
USD	780.0	0.0	3.638E-12	0
Zeta	306.5	513.5	$\geq 0.2$	1

Table 10: Results obtained by the Wilcoxon test for algorithm CACC

### 4.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-21.3 , 39.4]	0.90276
Ameva	[-1.45 , 51.4]	0.90276
Bayesian	[-741.8 , -148.35]	0.90276
CADD	[4.55 , 60.95]	0.90276
CAIM	[-0.5 , 58.2]	0.90276
Chi2	[-4.65 , 61.65]	0.90276
ChiMerge	[-0.2 , 62.35]	0.90276
ClusterAnalysis	[-818.3 , -61.2]	0.90276
DIBD	[5.85 , 66.5]	0.90276
Distance	[4.4 , 78.45]	0.90276
EqualFrequency	[-60.25 , 17.1]	0.90276
EqualWidth	[-23.5 , 37.8]	0.90276
Extended Chi2	[-9.4 , 60]	0.90276
FFD	[-150.45 , -6.15]	0.90276
FUSINTER	[-5.9 , 46.9]	0.90276
HDD	[-1,889.75 , -320.35]	0.90276
HellingerBD	[-37.8 , 32.3]	0.90276
Heter-Disc	[23.8 , 88.35]	0.90276
ID3	[-1,442.25 , -352.4]	0.90276
IDD	[-71.95 , 8.8]	0.90276
Khiops	[-26.45 , 18.1]	0.90276
MDLP	[2.05 , 74.65]	0.90276
Modified Chi2	[-55.6 , 16.75]	0.90276
MODL	[-57.45 , 3.95]	0.90276
MVD	[12.9 , 69.05]	0.90276
PKID	[-143.7 , -21.35]	0.90276
UCPD	[1.95 , 64.85]	0.90276
USD	[-696.05 , -175.1]	0.90276
Zeta	[-1 , 53.3]	0.90276

Table 11: Confidence intervals for algorithm CACC ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-27.35 , 52.5]	0.95024
Ameva	[-2.65 , 60.45]	0.95024
Bayesian	[-852.35 , -125.25]	0.95024
CADD	[3.35 , 69.6]	0.95024
CAIM	[-1.65 , 69.3]	0.95024
Chi2	[-7.4 , 75.05]	0.95024
ChiMerge	[-1 , 72.45]	0.95024
ClusterAnalysis	[-848.35 , -49.3]	0.95024
DIBD	[4 , 76.8]	0.95024
Distance	[3.25 , 99.3]	0.95024
EqualFrequency	[-72 , 28.4]	0.95024
EqualWidth	[-31.4 , 50.95]	0.95024
Extended Chi2	[-12.5 , 72.1]	0.95024
FFD	[-176.1 , -0.8]	0.95024
FUSINTER	[-7 , 69.25]	0.95024
HDD	[-1,931.75 , -276.05]	0.95024
HellingerBD	[-47.8 , 44.8]	0.95024
Heter-Disc	[20.75 , 112.9]	0.95024
ID3	[-1,542.5 , -336.15]	0.95024
IDD	[-92.1 , 15.75]	0.95024
Khiops	[-33.8 , 35.15]	0.95024
MDLP	[0.3 , 83.75]	0.95024
Modified Chi2	[-65.85 , 34.15]	0.95024
MODL	[-65.25 , 9.15]	0.95024
MVD	[10.45 , 89.7]	0.95024
PKID	[-182.35 , -13.55]	0.95024
UCPD	[0.8 , 80.7]	0.95024
USD	[-778.9 , -149.6]	0.95024
Zeta	[-2.45 , 63.8]	0.95024

Table 12: Confidence intervals for algorithm CACC ( $\alpha=0.95$ )

## 5 Detailed results for CADD

### 5.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	602.0	218.0	0.008996	0.009547
Ameva	629.0	191.0	0.002638	0.003174
Bayesian	793.0	27.0	2.294E-9	0
CACC	606.0	214.0	0.007584	0.008261
CAIM	595.5	224.5	0.011776	0.012124
Chi2	528.0	292.0	0.11496	0.111206
ChiMerge	593.0	227.0	0.013026	0.013331
ClusterAnalysis	802.0	18.0	4.602E-10	0
DIBD	539.0	281.0	0.08416	0.080721
Distance	421.0	399.0	$\geq 0.2$	0.876746
EqualFrequency	691.0	129.0	7.198E-5	0.000151
EqualWidth	646.0	174.0	0.0011066	0.001479
Extended Chi2	542.0	278.0	0.077	0.074917
FFD	803.0	17.0	3.766E-10	0
FUSINTER	582.0	238.0	0.019988	0.020415
HDD	784.0	36.0	9.054E-9	0
HellingerBD	666.0	154.0	3.572E-4	0.000565
Heter-Disc	96.0	724.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	689.0	131.0	8.252E-5	0.000168
Khiops	671.0	149.0	2.64E-4	0.00044
MDLP	433.5	346.5	$\geq 0.2$	0.537783
Modified Chi2	706.0	114.0	2.448E-5	0.000067
MODL	690.0	130.0	7.708E-5	0.000163
MVD	359.5	460.5	$\geq 0.2$	1
PKID	785.0	35.0	7.84E-9	0
UCPD	542.5	277.5	0.07586	0.072858
USD	808.0	12.0	1.2732E-10	0
Zeta	610.5	209.5	0.006234	0.006712

Table 13: Results obtained by the Wilcoxon test for algorithm CADD

### 5.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-103.45 , -10.3]	0.90276
Ameva	[-24.4 , -5.25]	0.90276
Bayesian	[-743.95 , -183.6]	0.90276
CACC	[-60.95 , -4.55]	0.90276
CAIM	[-19.45 , -3.45]	0.90276
Chi2	[-18.7 , 0.65]	0.90276
ChiMerge	[-17.8 , -3.05]	0.90276
ClusterAnalysis	[-843.45 , -177.5]	0.90276
DIBD	[-9.95 , -0.3]	0.90276
Distance	[-3.05 , 6.45]	0.90276
EqualFrequency	[-77.6 , -33.5]	0.90276
EqualWidth	[-37.65 , -13.15]	0.90276
Extended Chi2	[-19.7 , -0.4]	0.90276
FFD	[-213.85 , -69.05]	0.90276
FUSINTER	[-29.7 , -5.05]	0.90276
HDD	[-1,928.15 , -385.4]	0.90276
HellingerBD	[-50.1 , -18.5]	0.90276
Heter-Disc	[4.75 , 25.2]	0.90276
ID3	[-1,410.9 , -429.15]	0.90276
IDD	[-278.7 , -52.8]	0.90276
Khiops	[-54.35 , -18.1]	0.90276
MDLP	[-4.65 , 4.3]	0.90276
Modified Chi2	[-76.95 , -25.75]	0.90276
MODL	[-187.5 , -26.7]	0.90276
MVD	[-2.7 , 14.4]	0.90276
PKID	[-189.75 , -83.1]	0.90276
UCPD	[-13.55 , -1]	0.90276
USD	[-665.25 , -216.65]	0.90276
Zeta	[-21.7 , -3.8]	0.90276

Table 14: Confidence intervals for algorithm CADD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-137.1 , -7.1]	0.95024
Ameva	[-28.95 , -4.4]	0.95024
Bayesian	[-968.85 , -153.7]	0.95024
CACC	[-69.6 , -3.35]	0.95024
CAIM	[-22.65 , -2.6]	0.95024
Chi2	[-21.3 , 2.5]	0.95024
ChiMerge	[-19.6 , -2.3]	0.95024
ClusterAnalysis	[-1,086 , -166.45]	0.95024
DIBD	[-11.6 , 1.15]	0.95024
Distance	[-3.45 , 8.75]	0.95024
EqualFrequency	[-86.4 , -30.4]	0.95024
EqualWidth	[-43.8 , -11.3]	0.95024
Extended Chi2	[-21.8 , 1.7]	0.95024
FFD	[-292.7 , -62.75]	0.95024
FUSINTER	[-33.1 , -2.85]	0.95024
HDD	[-2,439.4 , -239.2]	0.95024
HellingerBD	[-58.1 , -16.2]	0.95024
Heter-Disc	[3.8 , 26.5]	0.95024
ID3	[-2,021.05 , -393]	0.95024
IDD	[-341.65 , -40.9]	0.95024
Khiops	[-68.35 , -16.3]	0.95024
MDLP	[-5.3 , 7.2]	0.95024
Modified Chi2	[-85 , -23.35]	0.95024
MODL	[-197.55 , -20.7]	0.95024
MVD	[-3.85 , 15.9]	0.95024
PKID	[-206.8 , -75.25]	0.95024
UCPD	[-14.35 , 1.45]	0.95024
USD	[-875.95 , -199.6]	0.95024
Zeta	[-25.75 , -2.95]	0.95024

Table 15: Confidence intervals for algorithm CADD ( $\alpha=0.95$ )

## 6 Detailed results for CAIM

### 6.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	502.0	278.0	0.12056	0.115793
Ameva	728.0	63.0	4.514E-4	0.000778
Bayesian	787.0	33.0	5.844E-9	0
CACC	517.5	302.5	$\geq 0.2$	0.319634
CADD	224.5	595.5	$\geq 0.2$	1
Chi2	357.5	462.5	$\geq 0.2$	1
ChiMerge	95.0	704.0	$\geq 0.2$	1
ClusterAnalysis	780.0	0.0	3.638E-12	0
DIBD	214.0	566.0	$\geq 0.2$	1
Distance	48.0	732.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	671.0	149.0	$\geq 0.2$	0.213284
Extended Chi2	360.0	460.0	$\geq 0.2$	1
FFD	778.0	42.0	2.07E-8	0.000001
FUSINTER	523.0	297.0	0.13156	0.127113
HDD	809.5	10.5	5.704E-9	0.000001
HellingerBD	734.0	57.0	2.42E-4	0.000448
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	748.0	72.0	6.46E-7	0.000005
Khiops	664.0	156.0	4.022E-4	0.000624
MDLP	216.0	564.0	$\geq 0.2$	1
Modified Chi2	649.0	171.0	9.412E-4	0.001286
MODL	678.5	141.5	1.6502E-4	0.000293
MVD	219.0	601.0	$\geq 0.2$	1
PKID	820.0	0.0	1.819E-12	0
UCPD	388.0	432.0	$\geq 0.2$	1
USD	777.0	3.0	1.819E-11	0
Zeta	499.5	309.5	$\geq 0.2$	1

Table 16: Results obtained by the Wilcoxon test for algorithm CAIM

### 6.2 Confidence intervals for Median of differences



$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-79.65 , 0.85]	0.90276
Ameva	[-5.7 , -1.5]	0.90276
Bayesian	[-746.85 , -214.95]	0.90276
CACC	[-58.2 , 0.5]	0.90276
CADD	[3.45 , 19.45]	0.90276
Chi2	[-5.6 , 18.8]	0.90276
ChiMerge	[0.1 , 0.9]	0.90276
ClusterAnalysis	[-1,106.25 , -172.15]	0.90276
DIBD	[1 , 7.5]	0.90276
Distance	[6.7 , 26.05]	0.90276
EqualFrequency	[-67.05 , -36.05]	0.90276
EqualWidth	[-30 , -6.5]	0.90276
Extended Chi2	[-5.1 , 15]	0.90276
FFD	[-208.95 , -53.25]	0.90276
FUSINTER	[-20.7 , 1.55]	0.90276
HDD	[-1,922.6 , -354.2]	0.90276
HellingerBD	[-43.2 , -14.85]	0.90276
Heter-Disc	[13.5 , 42.6]	0.90276
ID3	[-1,635.05 , -424.85]	0.90276
IDD	[-314 , -51.2]	0.90276
Khiops	[-66.55 , -13.5]	0.90276
MDLP	[1.9 , 16.25]	0.90276
Modified Chi2	[-63.05 , -16.8]	0.90276
MODL	[-124.25 , -18.75]	0.90276
MVD	[1.7 , 22.9]	0.90276
PKID	[-223.4 , -86.15]	0.90276
UCPD	[-5.45 , 15.1]	0.90276
USD	[-722.7 , -227.7]	0.90276
Zeta	[-1 , 0]	0.90276

Table 17: Confidence intervals for algorithm CAIM ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-92.9 , 3]	0.95024
Ameva	[-7.15 , -1.45]	0.95024
Bayesian	[-983.4 , -197.85]	0.95024
CACC	[-69.3 , 1.65]	0.95024
CADD	[2.6 , 22.65]	0.95024
Chi2	[-7.5 , 21.95]	0.95024
ChiMerge	[0.1 , 1]	0.95024
ClusterAnalysis	[-1,204.85 , -159.55]	0.95024
DIBD	[0.6 , 8.2]	0.95024
Distance	[5.8 , 28.15]	0.95024
EqualFrequency	[-73.2 , -33]	0.95024
EqualWidth	[-41.5 , -5]	0.95024
Extended Chi2	[-8.35 , 17.2]	0.95024
FFD	[-254.15 , -47]	0.95024
FUSINTER	[-22.2 , 3.85]	0.95024
HDD	[-2,448 , -309.8]	0.95024
HellingerBD	[-46 , -12.5]	0.95024
Heter-Disc	[11.5 , 45.75]	0.95024
ID3	[-2,102.65 , -387.95]	0.95024
IDD	[-368.7 , -44.9]	0.95024
Khiops	[-72.95 , -11.5]	0.95024
MDLP	[1.25 , 18.9]	0.95024
Modified Chi2	[-70.25 , -14.35]	0.95024
MODL	[-139.9 , -15.9]	0.95024
MVD	[1.35 , 24.3]	0.95024
PKID	[-279.55 , -80.95]	0.95024
UCPD	[-6.2 , 18.4]	0.95024
USD	[-937.9 , -214.85]	0.95024
Zeta	[-1 , 0]	0.95024

Table 18: Confidence intervals for algorithm CAIM ( $\alpha=0.95$ )

## 7 Detailed results for Chi2

### 7.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	591.0	229.0	0.014108	0.014537
Ameva	504.5	315.5	$\geq 0.2$	0.200113
Bayesian	770.0	50.0	5.724E-8	0.000001
CACC	490.0	330.0	$\geq 0.2$	0.279242
CADD	292.0	528.0	$\geq 0.2$	1
CAIM	462.5	357.5	$\geq 0.2$	0.473993
ChiMerge	436.5	383.5	$\geq 0.2$	0.716212
ClusterAnalysis	805.0	15.0	2.492E-10	0
DIBD	389.0	431.0	$\geq 0.2$	1
Distance	233.0	547.0	$\geq 0.2$	1
EqualFrequency	721.0	99.0	7.508E-6	0.000028
EqualWidth	623.0	197.0	0.00352	0.004046
Extended Chi2	347.0	473.0	$\geq 0.2$	1
FFD	750.5	69.5	5.022E-7	0.000004
FUSINTER	499.5	320.5	$\geq 0.2$	0.225607
HDD	811.0	9.0	6.002E-11	0
HellingerBD	668.0	152.0	3.168E-4	0.000501
Heter-Disc	69.0	751.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	700.0	120.0	3.814E-5	0.000094
Khiops	644.0	176.0	0.0012308	0.001592
MDLP	298.0	522.0	$\geq 0.2$	1
Modified Chi2	759.0	21.0	1.6262E-9	0
MODL	701.0	119.0	3.546E-5	0.000089
MVD	220.0	600.0	$\geq 0.2$	1
PKID	764.0	56.0	1.1634E-7	0.000002
UCPD	407.0	413.0	$\geq 0.2$	1
USD	783.0	37.0	1.0438E-8	0.000001
Zeta	483.5	336.5	$\geq 0.2$	0.317458

Table 19: Results obtained by the Wilcoxon test for algorithm Chi2

### 7.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-94.7 , -8.3]	0.90276
Ameva	[-25.9 , 2.35]	0.90276
Bayesian	[-610.2 , -215.2]	0.90276
CACC	[-61.65 , 4.65]	0.90276
CADD	[-0.65 , 18.7]	0.90276
CAIM	[-18.8 , 5.6]	0.90276
ChiMerge	[-14.5 , 6.95]	0.90276
ClusterAnalysis	[-1,108.8 , -170.55]	0.90276
DIBD	[-10.9 , 11.95]	0.90276
Distance	[2.15 , 20.55]	0.90276
EqualFrequency	[-81 , -32.1]	0.90276
EqualWidth	[-45.35 , -8.6]	0.90276
Extended Chi2	[-5.4 , 8.45]	0.90276
FFD	[-281.95 , -54.35]	0.90276
FUSINTER	[-24.3 , 2.1]	0.90276
HDD	[-1,675.65 , -390.65]	0.90276
HellingerBD	[-59.55 , -14.7]	0.90276
Heter-Disc	[15.95 , 31.9]	0.90276
ID3	[-1,618.25 , -425.15]	0.90276
IDD	[-298.1 , -56.35]	0.90276
Khiops	[-79.15 , -12.65]	0.90276
MDLP	[-0.65 , 18.45]	0.90276
Modified Chi2	[-71.3 , -21.35]	0.90276
MODL	[-170.8 , -32.85]	0.90276
MVD	[5.35 , 24.35]	0.90276
PKID	[-292.3 , -80.2]	0.90276
UCPD	[-8.1 , 11.45]	0.90276
USD	[-636.65 , -234.45]	0.90276
Zeta	[-20.8 , 4.25]	0.90276

Table 20: Confidence intervals for algorithm Chi2 ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-130.45 , -5.5]	0.95024
Ameva	[-30.75 , 4.25]	0.95024
Bayesian	[-802.7 , -192.85]	0.95024
CACC	[-75.05 , 7.4]	0.95024
CADD	[-2.5 , 21.3]	0.95024
CAIM	[-21.95 , 7.5]	0.95024
ChiMerge	[-17.85 , 9.25]	0.95024
ClusterAnalysis	[-1,167.3 , -161.05]	0.95024
DIBD	[-14.3 , 14.2]	0.95024
Distance	[1 , 21.95]	0.95024
EqualFrequency	[-91.95 , -29.2]	0.95024
EqualWidth	[-52.25 , -7.2]	0.95024
Extended Chi2	[-9.55 , 9.15]	0.95024
FFD	[-323 , -47.5]	0.95024
FUSINTER	[-28.6 , 4.55]	0.95024
HDD	[-2,193.35 , -305.05]	0.95024
HellingerBD	[-68 , -12.35]	0.95024
Heter-Disc	[14.85 , 33.85]	0.95024
ID3	[-2,108.5 , -382.8]	0.95024
IDD	[-370.95 , -51.2]	0.95024
Khiops	[-90.1 , -10.15]	0.95024
MDLP	[-2.65 , 20.4]	0.95024
Modified Chi2	[-95.85 , -18.2]	0.95024
MODL	[-191.25 , -26.05]	0.95024
MVD	[3.4 , 26.95]	0.95024
PKID	[-323.85 , -73.1]	0.95024
UCPD	[-10.1 , 12.7]	0.95024
USD	[-884.55 , -210.2]	0.95024
Zeta	[-23.9 , 6.35]	0.95024

Table 21: Confidence intervals for algorithm Chi2 ( $\alpha=0.95$ )

## 8 Detailed results for ChiMerge

### 8.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	509.5	270.5	0.09712	0.09344
Ameva	802.0	18.0	1.1782E-7	0.000004
Bayesian	789.0	31.0	4.32E-9	0
CACC	528.5	291.5	$\geq 0.2$	0.24808
CADD	227.0	593.0	$\geq 0.2$	1
CAIM	704.0	95.0	$\geq 0.2$	0.453588
Chi2	383.5	436.5	$\geq 0.2$	1
ClusterAnalysis	780.0	0.0	3.638E-12	0
DIBD	234.5	545.5	$\geq 0.2$	1
Distance	52.0	728.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	752.5	32.5	1.7398E-7	0.000002
Extended Chi2	369.0	451.0	$\geq 0.2$	1
FFD	784.0	36.0	9.054E-9	0
FUSINTER	537.0	283.0	0.0892	0.086572
HDD	780.0	3.0	7.276E-11	0
HellingerBD	815.0	5.0	2.91E-10	0
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	751.0	69.0	4.766E-7	0.000004
Khiops	712.0	108.0	1.5466E-5	0.000048
MDLP	221.5	558.5	$\geq 0.2$	1
Modified Chi2	663.0	157.0	4.266E-4	0.000656
MODL	661.0	119.0	6.838E-5	0.000151
MVD	219.0	561.0	$\geq 0.2$	1
PKID	820.0	0.0	1.819E-12	0
UCPD	416.5	403.5	$\geq 0.2$	0.924786
USD	780.0	0.0	3.638E-12	0
Zeta	734.5	85.5	0.1926	0.16906

Table 22: Results obtained by the Wilcoxon test for algorithm ChiMerge

### 8.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-84.6 , 0.2]	0.90276
Ameva	[-8.5 , -2.1]	0.90276
Bayesian	[-746.85 , -216.1]	0.90276
CACC	[-62.35 , 0.2]	0.90276
CADD	[3.05 , 17.8]	0.90276
CAIM	[-0.9 , -0.1]	0.90276
Chi2	[-6.95 , 14.5]	0.90276
ClusterAnalysis	[-1,106.6 , -172.35]	0.90276
DIBD	[0.55 , 5.95]	0.90276
Distance	[6.45 , 23.3]	0.90276
EqualFrequency	[-74.6 , -37.1]	0.90276
EqualWidth	[-45 , -8]	0.90276
Extended Chi2	[-5.4 , 13.95]	0.90276
FFD	[-210.7 , -56]	0.90276
FUSINTER	[-21.15 , -0.45]	0.90276
HDD	[-1,923.1 , -354.2]	0.90276
HellingerBD	[-52.35 , -16]	0.90276
Heter-Disc	[13 , 39.55]	0.90276
ID3	[-1,635.05 , -424.85]	0.90276
IDD	[-314.2 , -51.6]	0.90276
Khiops	[-68.95 , -16.1]	0.90276
MDLP	[1.5 , 14.4]	0.90276
Modified Chi2	[-63.65 , -18.1]	0.90276
MODL	[-129.8 , -19.1]	0.90276
MVD	[1.25 , 20.1]	0.90276
PKID	[-225.95 , -86.85]	0.90276
UCPD	[-5.75 , 13.45]	0.90276
USD	[-724.9 , -228.75]	0.90276
Zeta	[-4.05 , -0.25]	0.90276

Table 23: Confidence intervals for algorithm ChiMerge ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-106.7 , 2]	0.95024
Ameva	[-9.25 , -2]	0.95024
Bayesian	[-983.4 , -201.7]	0.95024
CACC	[-72.45 , 1]	0.95024
CADD	[2.3 , 19.6]	0.95024
CAIM	[-1 , -0.1]	0.95024
Chi2	[-9.25 , 17.85]	0.95024
ClusterAnalysis	[-1,213.6 , -161.9]	0.95024
DIBD	[0.25 , 6.4]	0.95024
Distance	[5.45 , 24.8]	0.95024
EqualFrequency	[-82.5 , -34.2]	0.95024
EqualWidth	[-47.95 , -7]	0.95024
Extended Chi2	[-8.95 , 16.3]	0.95024
FFD	[-275.75 , -48.3]	0.95024
FUSINTER	[-22.65 , 1.85]	0.95024
HDD	[-2,448.6 , -311.4]	0.95024
HellingerBD	[-56.9 , -14.85]	0.95024
Heter-Disc	[11.3 , 41.95]	0.95024
ID3	[-2,103.75 , -388.35]	0.95024
IDD	[-373.25 , -45.55]	0.95024
Khiops	[-75.2 , -14.35]	0.95024
MDLP	[1 , 17.5]	0.95024
Modified Chi2	[-71.1 , -15.25]	0.95024
MODL	[-141.25 , -16.4]	0.95024
MVD	[0.85 , 22.65]	0.95024
PKID	[-287 , -82.1]	0.95024
UCPD	[-6.65 , 16.8]	0.95024
USD	[-937.95 , -215.65]	0.95024
Zeta	[-4.55 , -0.15]	0.95024

Table 24: Confidence intervals for algorithm ChiMerge ( $\alpha=0.95$ )



## 9 Detailed results for ClusterAnalysis

### 9.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	61.5	758.5	$\geq 0.2$	1
Ameva	2.0	778.0	$\geq 0.2$	1
Bayesian	369.0	451.0	$\geq 0.2$	1
CACC	91.0	689.0	$\geq 0.2$	1
CADD	18.0	802.0	$\geq 0.2$	1
CAIM	0.0	780.0	$\geq 0.2$	1
Chi2	15.0	805.0	$\geq 0.2$	1
ChiMerge	0.0	780.0	$\geq 0.2$	1
DIBD	0.0	820.0	$\geq 0.2$	1
Distance	4.0	816.0	$\geq 0.2$	1
EqualFrequency	94.0	726.0	$\geq 0.2$	1
EqualWidth	34.0	786.0	$\geq 0.2$	1
Extended Chi2	69.0	751.0	$\geq 0.2$	1
FFD	84.0	736.0	$\geq 0.2$	1
FUSINTER	25.0	795.0	$\geq 0.2$	1
HDD	528.0	292.0	0.11496	0.111206
HellingerBD	55.0	765.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	623.0	197.0	0.00352	0.004108
IDD	117.0	703.0	$\geq 0.2$	1
Khiops	44.0	776.0	$\geq 0.2$	1
MDLP	10.0	770.0	$\geq 0.2$	1
Modified Chi2	111.0	709.0	$\geq 0.2$	1
MODL	78.0	742.0	$\geq 0.2$	1
MVD	4.0	816.0	$\geq 0.2$	1
PKID	176.0	644.0	$\geq 0.2$	1
UCPD	22.0	798.0	$\geq 0.2$	1
USD	364.0	416.0	$\geq 0.2$	1
Zeta	0.0	780.0	$\geq 0.2$	1

Table 25: Results obtained by the Wilcoxon test for algorithm ClusterAnalysis

### 9.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[132.75 , 844.55]	0.90276
Ameva	[164.05 , 1,100.55]	0.90276
Bayesian	[-44 , 86.2]	0.90276
CACC	[61.2 , 818.3]	0.90276
CADD	[177.5 , 843.45]	0.90276
CAIM	[172.15 , 1,106.25]	0.90276
Chi2	[170.55 , 1,108.8]	0.90276
ChiMerge	[172.35 , 1,106.6]	0.90276
DIBD	[175.7 , 1,119.3]	0.90276
Distance	[184.3 , 1,117.1]	0.90276
EqualFrequency	[135.95 , 843.7]	0.90276
EqualWidth	[160.4 , 930.65]	0.90276
Extended Chi2	[156.85 , 1,078.5]	0.90276
FFD	[85.85 , 669.55]	0.90276
FUSINTER	[144.55 , 1,105.75]	0.90276
HDD	[-435.6 , 3.35]	0.90276
HellingerBD	[152.35 , 862.25]	0.90276
Heter-Disc	[192.9 , 1,134.25]	0.90276
ID3	[-403.7 , -65.8]	0.90276
IDD	[87.85 , 608.3]	0.90276
Khiops	[141.4 , 973.75]	0.90276
MDLP	[183.3 , 1,101.55]	0.90276
Modified Chi2	[109.8 , 775]	0.90276
MODL	[101.8 , 779.25]	0.90276
MVD	[176.55 , 1,100.85]	0.90276
PKID	[55.2 , 797.6]	0.90276
UCPD	[163.05 , 1,113.05]	0.90276
USD	[-55.2 , 82.25]	0.90276
Zeta	[169.6 , 1,100.55]	0.90276

Table 26: Confidence intervals for algorithm ClusterAnalysis ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[115.5 , 887.5]	0.95024
Ameva	[153.8 , 1,204.75]	0.95024
Bayesian	[-77.5 , 116.8]	0.95024
CACC	[49.3 , 848.35]	0.95024
CADD	[166.45 , 1,086]	0.95024
CAIM	[159.55 , 1,204.85]	0.95024
Chi2	[161.05 , 1,167.3]	0.95024
ChiMerge	[161.9 , 1,213.6]	0.95024
DIBD	[166.35 , 1,239.2]	0.95024
Distance	[173.05 , 1,238.35]	0.95024
EqualFrequency	[121.1 , 905]	0.95024
EqualWidth	[151 , 1,039.35]	0.95024
Extended Chi2	[127.15 , 1,195.3]	0.95024
FFD	[79.85 , 796.45]	0.95024
FUSINTER	[124.5 , 1,208.4]	0.95024
HDD	[-570.85 , 9.3]	0.95024
HellingerBD	[138.9 , 912.5]	0.95024
Heter-Disc	[180.4 , 1,246.9]	0.95024
ID3	[-450.4 , -51.3]	0.95024
IDD	[75.1 , 729.3]	0.95024
Khiops	[127 , 1,149.5]	0.95024
MDLP	[170.05 , 1,229.55]	0.95024
Modified Chi2	[93.85 , 892.55]	0.95024
MODL	[91.1 , 919.2]	0.95024
MVD	[163.85 , 1,234.65]	0.95024
PKID	[37.05 , 921.6]	0.95024
UCPD	[153.25 , 1,230.35]	0.95024
USD	[-80.2 , 98.75]	0.95024
Zeta	[158.35 , 1,206.65]	0.95024

Table 27: Confidence intervals for algorithm ClusterAnalysis ( $\alpha=0.95$ )

## 10 Detailed results for DIBD

### 10.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	582.5	197.5	0.006392999999999999	0.006975
Ameva	637.0	143.0	3.426E-4	0.000528
Bayesian	805.0	15.0	2.492E-10	0
CACC	622.5	197.5	0.003605	0.00407
CADD	281.0	539.0	$\geq 0.2$	1
CAIM	566.0	214.0	0.01315	0.013125
Chi2	431.0	389.0	$\geq 0.2$	0.772591
ChiMerge	545.5	234.5	0.02942	0.028638
ClusterAnalysis	820.0	0.0	1.819E-12	0
Distance	173.0	607.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	780.0	0.0	3.638E-12	0
Extended Chi2	414.5	405.5	$\geq 0.2$	0.946327
FFD	791.0	29.0	3.164E-9	0
FUSINTER	619.0	201.0	0.004244	0.004863
HDD	813.0	7.0	3.456E-11	0
HellingerBD	780.0	0.0	3.638E-12	0
Heter-Disc	6.0	814.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	745.0	35.0	1.568E-8	0.000001
Khiops	737.0	83.0	1.8586E-6	0.000011
MDLP	315.5	504.5	$\geq 0.2$	1
Modified Chi2	689.0	131.0	8.252E-5	0.000168
MODL	769.0	51.0	6.46E-8	0.000001
MVD	402.0	418.0	$\geq 0.2$	1
PKID	820.0	0.0	1.819E-12	0
UCPD	537.5	282.5	0.087930000000000001	0.08482
USD	820.0	0.0	1.819E-12	0
Zeta	573.0	207.0	0.009764	0.010178

Table 28: Results obtained by the Wilcoxon test for algorithm DIBD

### 10.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-79.05 , -6.45]	0.90276
Ameva	[-13.75 , -3.85]	0.90276
Bayesian	[-749.45 , -216.3]	0.90276
CACC	[-66.5 , -5.85]	0.90276
CADD	[0.3 , 9.95]	0.90276
CAIM	[-7.5 , -1]	0.90276
Chi2	[-11.95 , 10.9]	0.90276
ChiMerge	[-5.95 , -0.55]	0.90276
ClusterAnalysis	[-1,119.3 , -175.7]	0.90276
Distance	[2.35 , 17.65]	0.90276
EqualFrequency	[-96.2 , -39.75]	0.90276
EqualWidth	[-48.75 , -14.2]	0.90276
Extended Chi2	[-11.95 , 8.35]	0.90276
FFD	[-212.4 , -58.45]	0.90276
FUSINTER	[-22.2 , -6]	0.90276
HDD	[-1,926.8 , -361.9]	0.90276
HellingerBD	[-62.9 , -20.85]	0.90276
Heter-Disc	[9.55 , 27.3]	0.90276
ID3	[-1,644 , -432.25]	0.90276
IDD	[-325.25 , -57.5]	0.90276
Khiops	[-69.9 , -19.05]	0.90276
MDLP	[-0.5 , 7.05]	0.90276
Modified Chi2	[-71.75 , -22.25]	0.90276
MODL	[-127.15 , -22.7]	0.90276
MVD	[-2.65 , 12.6]	0.90276
PKID	[-245.05 , -93.05]	0.90276
UCPD	[-8.15 , -0.85]	0.90276
USD	[-725.65 , -232.55]	0.90276
Zeta	[-9.15 , -1.1]	0.90276

Table 29: Confidence intervals for algorithm DIBD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-95.2 , -4.9]	0.95024
Ameva	[-15.25 , -3.3]	0.95024
Bayesian	[-1,004.65 , -205.35]	0.95024
CACC	[-76.8 , -4]	0.95024
CADD	[-1.15 , 11.6]	0.95024
CAIM	[-8.2 , -0.6]	0.95024
Chi2	[-14.2 , 14.3]	0.95024
ChiMerge	[-6.4 , -0.25]	0.95024
ClusterAnalysis	[-1,239.2 , -166.35]	0.95024
Distance	[1.7 , 19.7]	0.95024
EqualFrequency	[-109.75 , -37.1]	0.95024
EqualWidth	[-57.8 , -12.3]	0.95024
Extended Chi2	[-14.8 , 11.7]	0.95024
FFD	[-254.75 , -49.15]	0.95024
FUSINTER	[-24.7 , -4.85]	0.95024
HDD	[-2,448.2 , -309.8]	0.95024
HellingerBD	[-71.7 , -18.95]	0.95024
Heter-Disc	[8.9 , 32.1]	0.95024
ID3	[-2,106.65 , -390.85]	0.95024
IDD	[-370.3 , -49.4]	0.95024
Khiops	[-79.45 , -17.2]	0.95024
MDLP	[-1.2 , 8.1]	0.95024
Modified Chi2	[-79.15 , -20.15]	0.95024
MODL	[-153.15 , -21.2]	0.95024
MVD	[-3.4 , 19.45]	0.95024
PKID	[-292.4 , -88.25]	0.95024
UCPD	[-8.75 , 5.6]	0.95024
USD	[-929.05 , -218.8]	0.95024
Zeta	[-10.35 , -0.7]	0.95024

Table 30: Confidence intervals for algorithm DIBD ( $\alpha=0.95$ )

## 11 Detailed results for Distance

### 11.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	728.0	92.0	4.154E-6	0.000019
Ameva	786.5	33.5	2.524E-8	0.000001
Bayesian	809.0	11.0	1.0004E-10	0
CACC	618.0	162.0	0.001055	0.001402
CADD	399.0	421.0	$\geq 0.2$	1
CAIM	732.0	48.0	8.94E-8	0.000002
Chi2	547.0	233.0	0.02782	0.027955
ChiMerge	728.0	52.0	1.4542E-7	0.000002
ClusterAnalysis	816.0	4.0	1.2732E-11	0
DIBD	607.0	173.0	0.0019174	0.002362
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	820.0	0.0	1.819E-12	0
Extended Chi2	569.5	250.5	0.03153	0.030939
FFD	820.0	0.0	1.819E-12	0
FUSINTER	817.0	3.0	9.094E-12	0
HDD	780.0	0.0	3.638E-12	0
HellingerBD	820.0	0.0	1.819E-12	0
Heter-Disc	47.0	773.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	781.0	39.0	1.3796E-8	0.000001
Khiops	817.0	3.0	9.094E-12	0
MDLP	601.5	181.5	0.009394	0.008751
Modified Chi2	807.5	12.5	1.437E-10	0
MODL	820.0	0.0	1.819E-12	0
MVD	490.0	330.0	$\geq 0.2$	0.276002
PKID	820.0	0.0	1.819E-12	0
UCPD	678.0	142.0	1.703E-4	0.0003
USD	820.0	0.0	1.819E-12	0
Zeta	734.0	46.0	6.956E-8	0.000002

Table 31: Results obtained by the Wilcoxon test for algorithm Distance

### 11.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-159.95 , -21.65]	0.90276
Ameva	[-38.4 , -9.4]	0.90276
Bayesian	[-753.5 , -227]	0.90276
CACC	[-78.45 , -4.4]	0.90276
CADD	[-6.45 , 3.05]	0.90276
CAIM	[-26.05 , -6.7]	0.90276
Chi2	[-20.55 , -2.15]	0.90276
ChiMerge	[-23.3 , -6.45]	0.90276
ClusterAnalysis	[-1,117.1 , -184.3]	0.90276
DIBD	[-17.65 , -2.35]	0.90276
EqualFrequency	[-123.45 , -51.4]	0.90276
EqualWidth	[-110 , -24.3]	0.90276
Extended Chi2	[-19.95 , -1.6]	0.90276
FFD	[-341.1 , -77.85]	0.90276
FUSINTER	[-34.15 , -14.05]	0.90276
HDD	[-1,925.5 , -390]	0.90276
HellingerBD	[-113.65 , -31.25]	0.90276
Heter-Disc	[5.8 , 15.4]	0.90276
ID3	[-1,639.65 , -438.65]	0.90276
IDD	[-329.9 , -72.4]	0.90276
Khiops	[-96.5 , -33.2]	0.90276
MDLP	[-4.25 , -0.5]	0.90276
Modified Chi2	[-88.95 , -36.35]	0.90276
MODL	[-192.8 , -41.85]	0.90276
MVD	[-6.25 , 1.95]	0.90276
PKID	[-316.5 , -100.45]	0.90276
UCPD	[-13.25 , -6.3]	0.90276
USD	[-733.15 , -244.35]	0.90276
Zeta	[-29.55 , -7.45]	0.90276

Table 32: Confidence intervals for algorithm Distance ( $\alpha=0.90$ )



$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-169.75 , -18.95]	0.95024
Ameva	[-40.85 , -8.2]	0.95024
Bayesian	[-1,000.1 , -216.65]	0.95024
CACC	[-99.3 , -3.25]	0.95024
CADD	[-8.75 , 3.45]	0.95024
CAIM	[-28.15 , -5.8]	0.95024
Chi2	[-21.95 , -1]	0.95024
ChiMerge	[-24.8 , -5.45]	0.95024
ClusterAnalysis	[-1,238.35 , -173.05]	0.95024
DIBD	[-19.7 , -1.7]	0.95024
EqualFrequency	[-138.1 , -48.15]	0.95024
EqualWidth	[-117 , -22.35]	0.95024
Extended Chi2	[-22.05 , -0.85]	0.95024
FFD	[-383.4 , -68.5]	0.95024
FUSINTER	[-36.65 , -12.7]	0.95024
HDD	[-2,447.8 , -327.15]	0.95024
HellingerBD	[-123.4 , -29.15]	0.95024
Heter-Disc	[5.3 , 16.3]	0.95024
ID3	[-2,123.3 , -394.05]	0.95024
IDD	[-387.7 , -69.15]	0.95024
Khiops	[-104.45 , -30.1]	0.95024
MDLP	[-5 , -0.3]	0.95024
Modified Chi2	[-97.5 , -31.9]	0.95024
MODL	[-205.3 , -38.1]	0.95024
MVD	[-7.05 , 3]	0.95024
PKID	[-334.9 , -94.35]	0.95024
UCPD	[-14.45 , -5.7]	0.95024
USD	[-962.3 , -223.5]	0.95024
Zeta	[-33.6 , -6.1]	0.95024

Table 33: Confidence intervals for algorithm Distance ( $\alpha=0.95$ )

## 12 Detailed results for EqualFrequency

### 12.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	323.0	497.0	$\geq 0.2$	1
Ameva	0.0	820.0	$\geq 0.2$	1
Bayesian	661.0	159.0	4.794E-4	0.000724
CACC	332.0	488.0	$\geq 0.2$	1
CADD	129.0	691.0	$\geq 0.2$	1
CAIM	0.0	820.0	$\geq 0.2$	1
Chi2	99.0	721.0	$\geq 0.2$	1
ChiMerge	0.0	820.0	$\geq 0.2$	1
ClusterAnalysis	726.0	94.0	4.932E-6	0.00002
DIBD	0.0	820.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualWidth	0.0	820.0	$\geq 0.2$	1
Extended Chi2	179.0	641.0	$\geq 0.2$	1
FFD	583.0	237.0	0.019246	0.018882
FUSINTER	121.0	699.0	$\geq 0.2$	1
HDD	664.0	156.0	4.022E-4	0.000624
HellingerBD	0.0	820.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	783.0	37.0	1.0438E-8	0.000001
IDD	527.0	293.0	0.11814	0.114255
Khiops	189.0	631.0	$\geq 0.2$	1
MDLP	0.0	820.0	$\geq 0.2$	1
Modified Chi2	416.0	404.0	$\geq 0.2$	0.930262
MODL	378.0	442.0	$\geq 0.2$	1
MVD	1.5	818.5	$\geq 0.2$	1
PKID	625.0	195.0	0.003202	0.003772
UCPD	31.0	749.0	$\geq 0.2$	1
USD	687.0	133.0	9.446E-5	0.000192
Zeta	0.0	820.0	$\geq 0.2$	1

Table 34: Results obtained by the Wilcoxon test for algorithm EqualFrequency

### 12.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-13.7 , 37.5]	0.90276
Ameva	[25.65 , 57.8]	0.90276
Bayesian	[-625.5 , -105.85]	0.90276
CACC	[-17.1 , 60.25]	0.90276
CADD	[33.5 , 77.6]	0.90276
CAIM	[36.05 , 67.05]	0.90276
Chi2	[32.1 , 81]	0.90276
ChiMerge	[37.1 , 74.6]	0.90276
ClusterAnalysis	[-843.7 , -135.95]	0.90276
DIBD	[39.75 , 96.2]	0.90276
Distance	[51.4 , 123.45]	0.90276
EqualWidth	[19 , 41.5]	0.90276
Extended Chi2	[24.1 , 75.7]	0.90276
FFD	[-90.6 , -8]	0.90276
FUSINTER	[25.5 , 99.3]	0.90276
HDD	[-1,852 , -167.8]	0.90276
HellingerBD	[12 , 26.9]	0.90276
Heter-Disc	[57 , 136.1]	0.90276
ID3	[-1,442.05 , -326.9]	0.90276
IDD	[-87.4 , 1.5]	0.90276
Khiops	[12.75 , 53.95]	0.90276
MDLP	[50.5 , 117.05]	0.90276
Modified Chi2	[-27.75 , 23.6]	0.90276
MODL	[-37.15 , 30.35]	0.90276
MVD	[43.5 , 124.65]	0.90276
PKID	[-83.5 , -28.3]	0.90276
UCPD	[33.95 , 115.55]	0.90276
USD	[-581.55 , -138]	0.90276
Zeta	[32 , 63]	0.90276

Table 35: Confidence intervals for algorithm EqualFrequency ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-21.2 , 42]	0.95024
Ameva	[23.9 , 65.45]	0.95024
Bayesian	[-736.4 , -75.3]	0.95024
CACC	[-28.4 , 72]	0.95024
CADD	[30.4 , 86.4]	0.95024
CAIM	[33 , 73.2]	0.95024
Chi2	[29.2 , 91.95]	0.95024
ChiMerge	[34.2 , 82.5]	0.95024
ClusterAnalysis	[-905 , -121.1]	0.95024
DIBD	[37.1 , 109.75]	0.95024
Distance	[48.15 , 138.1]	0.95024
EqualWidth	[17.5 , 44.5]	0.95024
Extended Chi2	[20.3 , 84.75]	0.95024
FFD	[-109.35 , -4.6]	0.95024
FUSINTER	[22.65 , 114.75]	0.95024
HDD	[-2,234.75 , -142.75]	0.95024
HellingerBD	[11.5 , 29.5]	0.95024
Heter-Disc	[54.5 , 150.15]	0.95024
ID3	[-1,752.95 , -297.8]	0.95024
IDD	[-106.8 , 6.5]	0.95024
Khiops	[10.15 , 59.3]	0.95024
MDLP	[46.75 , 124.3]	0.95024
Modified Chi2	[-34 , 27.45]	0.95024
MODL	[-60.05 , 36]	0.95024
MVD	[40.6 , 139.95]	0.95024
PKID	[-89.5 , -24]	0.95024
UCPD	[31.15 , 128]	0.95024
USD	[-637.2 , -99.6]	0.95024
Zeta	[29 , 69.5]	0.95024

Table 36: Confidence intervals for algorithm EqualFrequency ( $\alpha=0.95$ )

## 13 Detailed results for EqualWidth

### 13.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	437.0	343.0	$\geq 0.2$	0.506677
Ameva	260.5	559.5	$\geq 0.2$	1
Bayesian	712.0	108.0	1.5466E-5	0.000048
CACC	399.5	420.5	$\geq 0.2$	1
CADD	174.0	646.0	$\geq 0.2$	1
CAIM	149.0	671.0	$\geq 0.2$	1
Chi2	197.0	623.0	$\geq 0.2$	1
ChiMerge	32.5	752.5	$\geq 0.2$	1
ClusterAnalysis	786.0	34.0	6.776E-9	0
DIBD	0.0	780.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
Extended Chi2	253.0	567.0	$\geq 0.2$	1
FFD	748.0	35.0	6.272E-8	0.000002
FUSINTER	248.0	572.0	$\geq 0.2$	1
HDD	749.0	71.0	8.996E-6	0.000037
HellingerBD	752.0	68.0	0.01787	0.018001
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	818.5	1.5	1.8186E-11	0
IDD	654.0	166.0	7.144E-4	0.001015
Khiops	387.0	393.0	$\geq 0.2$	1
MDLP	5.0	815.0	$\geq 0.2$	1
Modified Chi2	568.0	252.0	0.03322	0.033135
MODL	545.0	275.0	0.07034	0.068098
MVD	65.5	754.5	$\geq 0.2$	1
PKID	818.5	1.5	1.8186E-11	0
UCPD	175.0	645.0	$\geq 0.2$	1
USD	753.0	67.0	3.876E-7	0.000004
Zeta	190.0	630.0	$\geq 0.2$	1

Table 37: Results obtained by the Wilcoxon test for algorithm EqualWidth

### 13.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-49.5 , 7.65]	0.90276
Ameva	[1 , 27]	0.90276
Bayesian	[-691 , -138.4]	0.90276
CACC	[-37.8 , 23.5]	0.90276
CADD	[13.15 , 37.65]	0.90276
CAIM	[6.5 , 30]	0.90276
Chi2	[8.6 , 45.35]	0.90276
ChiMerge	[8 , 45]	0.90276
ClusterAnalysis	[-930.65 , -160.4]	0.90276
DIBD	[14.2 , 48.75]	0.90276
Distance	[24.3 , 110]	0.90276
EqualFrequency	[-41.5 , -19]	0.90276
Extended Chi2	[4.1 , 36.3]	0.90276
FFD	[-176.25 , -43.75]	0.90276
FUSINTER	[3.1 , 69.2]	0.90276
HDD	[-1,877.6 , -261.3]	0.90276
HellingerBD	[-9.5 , -3]	0.90276
Heter-Disc	[29.6 , 117.95]	0.90276
ID3	[-1,489.75 , -372]	0.90276
IDD	[-157.6 , -30.15]	0.90276
Khiops	[-7.7 , 17.2]	0.90276
MDLP	[23.55 , 81.9]	0.90276
Modified Chi2	[-43.75 , -3]	0.90276
MODL	[-89.45 , -0.95]	0.90276
MVD	[14.45 , 112.1]	0.90276
PKID	[-124.35 , -65.9]	0.90276
UCPD	[7.75 , 101.25]	0.90276
USD	[-616.5 , -176.65]	0.90276
Zeta	[4 , 28.9]	0.90276

Table 38: Confidence intervals for algorithm EqualWidth ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-56.75 , 9.3]	0.95024
Ameva	[0 , 35.65]	0.95024
Bayesian	[-907.85 , -100.7]	0.95024
CACC	[-50.95 , 31.4]	0.95024
CADD	[11.3 , 43.8]	0.95024
CAIM	[5 , 41.5]	0.95024
Chi2	[7.2 , 52.25]	0.95024
ChiMerge	[7 , 47.95]	0.95024
ClusterAnalysis	[-1,039.35 , -151]	0.95024
DIBD	[12.3 , 57.8]	0.95024
Distance	[22.35 , 117]	0.95024
EqualFrequency	[-44.5 , -17.5]	0.95024
Extended Chi2	[1.35 , 41.3]	0.95024
FFD	[-217.1 , -38]	0.95024
FUSINTER	[1.35 , 84.35]	0.95024
HDD	[-2,382.1 , -190.5]	0.95024
HellingerBD	[-11.05 , -3]	0.95024
Heter-Disc	[27.45 , 127]	0.95024
ID3	[-1,798.45 , -351.7]	0.95024
IDD	[-247.95 , -23.3]	0.95024
Khiops	[-8.9 , 23.65]	0.95024
MDLP	[21.95 , 100.75]	0.95024
Modified Chi2	[-48.9 , -1.2]	0.95024
MODL	[-94.6 , 1]	0.95024
MVD	[12.55 , 120]	0.95024
PKID	[-135 , -62.05]	0.95024
UCPD	[6.05 , 113.1]	0.95024
USD	[-809.3 , -128.15]	0.95024
Zeta	[2 , 38.85]	0.95024

Table 39: Confidence intervals for algorithm EqualWidth ( $\alpha=0.95$ )

## 14 Detailed results for Extended Chi2

### 14.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	495.0	325.0	$\geq 0.2$	0.250461
Ameva	489.0	331.0	$\geq 0.2$	0.285258
Bayesian	741.0	79.0	1.2784E-6	0.000008
CACC	457.0	363.0	$\geq 0.2$	0.523173
CADD	278.0	542.0	$\geq 0.2$	1
CAIM	460.0	360.0	$\geq 0.2$	0.497274
Chi2	473.0	347.0	$\geq 0.2$	0.39337
ChiMerge	451.0	369.0	$\geq 0.2$	0.576331
ClusterAnalysis	751.0	69.0	4.766E-7	0.000004
DIBD	405.5	414.5	$\geq 0.2$	1
Distance	250.5	569.5	$\geq 0.2$	1
EqualFrequency	641.0	179.0	0.0014408	0.00186
EqualWidth	567.0	253.0	0.0344	0.034259
FFD	661.0	159.0	4.794E-4	0.000724
FUSINTER	533.0	287.0	0.10004	0.096354
HDD	800.0	20.0	6.748E-10	0
HellingerBD	597.0	223.0	0.011074	0.011727
Heter-Disc	92.0	688.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	587.0	233.0	0.016506	0.017041
Khiops	591.0	229.0	0.014108	0.014704
MDLP	381.0	439.0	$\geq 0.2$	1
Modified Chi2	783.0	37.0	1.0438E-8	0.000001
MODL	595.0	225.0	0.012016	0.012654
MVD	287.0	533.0	$\geq 0.2$	1
PKID	678.0	142.0	1.703E-4	0.0003
UCPD	405.0	415.0	$\geq 0.2$	1
USD	746.0	74.0	7.88E-7	0.000006
Zeta	467.0	353.0	$\geq 0.2$	0.439597

Table 40: Results obtained by the Wilcoxon test for algorithm Extended Chi2

### 14.2 Confidence intervals for Median of differences



$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-43.7 , 6.65]	0.90276
Ameva	[-19.1 , 2.8]	0.90276
Bayesian	[-472.6 , -136.75]	0.90276
CACC	[-60 , 9.4]	0.90276
CADD	[0.4 , 19.7]	0.90276
CAIM	[-15 , 5.1]	0.90276
Chi2	[-8.45 , 5.4]	0.90276
ChiMerge	[-13.95 , 5.4]	0.90276
ClusterAnalysis	[-1,078.5 , -156.85]	0.90276
DIBD	[-8.35 , 11.95]	0.90276
Distance	[1.6 , 19.95]	0.90276
EqualFrequency	[-75.7 , -24.1]	0.90276
EqualWidth	[-36.3 , -4.1]	0.90276
FFD	[-172.15 , -31.05]	0.90276
FUSINTER	[-28.25 , -0.05]	0.90276
HDD	[-1,200.9 , -357.9]	0.90276
HellingerBD	[-48.5 , -10.3]	0.90276
Heter-Disc	[9.45 , 29.45]	0.90276
ID3	[-1,570.75 , -408.35]	0.90276
IDD	[-117.85 , -19.1]	0.90276
Khiops	[-63.9 , -9.25]	0.90276
MDLP	[-5.85 , 11.3]	0.90276
Modified Chi2	[-76.3 , -26.5]	0.90276
MODL	[-107.2 , -13.3]	0.90276
MVD	[-0.15 , 20.7]	0.90276
PKID	[-189.2 , -53.5]	0.90276
UCPD	[-9.9 , 13.8]	0.90276
USD	[-512.65 , -193.95]	0.90276
Zeta	[-17.25 , 4.15]	0.90276

Table 41: Confidence intervals for algorithm Extended Chi2 ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-52.05 , 10.4]	0.95024
Ameva	[-21.45 , 6.2]	0.95024
Bayesian	[-514.55 , -113.7]	0.95024
CACC	[-72.1 , 12.5]	0.95024
CADD	[-1.7 , 21.8]	0.95024
CAIM	[-17.2 , 8.35]	0.95024
Chi2	[-9.15 , 9.55]	0.95024
ChiMerge	[-16.3 , 8.95]	0.95024
ClusterAnalysis	[-1,195.3 , -127.15]	0.95024
DIBD	[-11.7 , 14.8]	0.95024
Distance	[0.85 , 22.05]	0.95024
EqualFrequency	[-84.75 , -20.3]	0.95024
EqualWidth	[-41.3 , -1.35]	0.95024
FFD	[-183.55 , -25.05]	0.95024
FUSINTER	[-30.25 , 2.25]	0.95024
HDD	[-1,619.6 , -306.15]	0.95024
HellingerBD	[-55.7 , -6.7]	0.95024
Heter-Disc	[8.3 , 33.3]	0.95024
ID3	[-1,903.75 , -389.45]	0.95024
IDD	[-129.9 , -10.75]	0.95024
Khiops	[-76.4 , -6.95]	0.95024
MDLP	[-7.75 , 15.5]	0.95024
Modified Chi2	[-84.3 , -22.5]	0.95024
MODL	[-116.15 , -7.15]	0.95024
MVD	[-1.5 , 23.8]	0.95024
PKID	[-212.8 , -42.15]	0.95024
UCPD	[-11.35 , 16.65]	0.95024
USD	[-578.1 , -160.85]	0.95024
Zeta	[-19.35 , 7.45]	0.95024

Table 42: Confidence intervals for algorithm Extended Chi2 ( $\alpha=0.95$ )

## 15 Detailed results for FFD

### 15.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	94.0	726.0	$\geq 0.2$	1
Ameva	62.0	758.0	$\geq 0.2$	1
Bayesian	642.0	178.0	0.0013674	0.001777
CACC	263.0	557.0	$\geq 0.2$	1
CADD	17.0	803.0	$\geq 0.2$	1
CAIM	42.0	778.0	$\geq 0.2$	1
Chi2	69.5	750.5	$\geq 0.2$	1
ChiMerge	36.0	784.0	$\geq 0.2$	1
ClusterAnalysis	736.0	84.0	2.038E-6	0.000011
DIBD	29.0	791.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	237.0	583.0	$\geq 0.2$	1
EqualWidth	35.0	748.0	$\geq 0.2$	1
Extended Chi2	159.0	661.0	$\geq 0.2$	1
FUSINTER	1.0	819.0	$\geq 0.2$	1
HDD	663.0	117.0	5.914E-5	0.000135
HellingerBD	139.0	641.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	818.5	1.5	1.8186E-11	0
IDD	394.0	426.0	$\geq 0.2$	1
Khiops	4.5	815.5	$\geq 0.2$	1
MDLP	0.0	820.0	$\geq 0.2$	1
Modified Chi2	214.0	606.0	$\geq 0.2$	1
MODL	293.0	527.0	$\geq 0.2$	1
MVD	0.0	820.0	$\geq 0.2$	1
PKID	503.0	317.0	$\geq 0.2$	0.795462
UCPD	11.0	809.0	$\geq 0.2$	1
USD	665.0	155.0	3.79E-4	0.000594
Zeta	61.0	759.0	$\geq 0.2$	1

Table 43: Results obtained by the Wilcoxon test for algorithm FFD

### 15.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[25.35 , 131.45]	0.90276
Ameva	[48.75 , 200.1]	0.90276
Bayesian	[-538.7 , -45.5]	0.90276
CACC	[6.15 , 150.45]	0.90276
CADD	[69.05 , 213.85]	0.90276
CAIM	[53.25 , 208.95]	0.90276
Chi2	[54.35 , 281.95]	0.90276
ChiMerge	[56 , 210.7]	0.90276
ClusterAnalysis	[-669.55 , -85.85]	0.90276
DIBD	[58.45 , 212.4]	0.90276
Distance	[77.85 , 341.1]	0.90276
EqualFrequency	[8 , 90.6]	0.90276
EqualWidth	[43.75 , 176.25]	0.90276
Extended Chi2	[31.05 , 172.15]	0.90276
FUSINTER	[43.4 , 337.65]	0.90276
HDD	[-1,758.1 , -150.05]	0.90276
HellingerBD	[20.65 , 116.75]	0.90276
Heter-Disc	[85.5 , 358.15]	0.90276
ID3	[-1,157.8 , -311.7]	0.90276
IDD	[-37.8 , 28.25]	0.90276
Khiops	[44.85 , 205.4]	0.90276
MDLP	[76.6 , 336.6]	0.90276
Modified Chi2	[10.5 , 115.25]	0.90276
MODL	[-2.7 , 96.4]	0.90276
MVD	[72.45 , 351.9]	0.90276
PKID	[-22.85 , 8.5]	0.90276
UCPD	[64.95 , 345.45]	0.90276
USD	[-489.3 , -67.2]	0.90276
Zeta	[51.05 , 205.2]	0.90276

Table 44: Confidence intervals for algorithm FFD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[22.8 , 143.9]	0.95024
Ameva	[44.15 , 252.8]	0.95024
Bayesian	[-625.9 , -34.4]	0.95024
CACC	[0.8 , 176.1]	0.95024
CADD	[62.75 , 292.7]	0.95024
CAIM	[47 , 254.15]	0.95024
Chi2	[47.5 , 323]	0.95024
ChiMerge	[48.3 , 275.75]	0.95024
ClusterAnalysis	[-796.45 , -79.85]	0.95024
DIBD	[49.15 , 254.75]	0.95024
Distance	[68.5 , 383.4]	0.95024
EqualFrequency	[4.6 , 109.35]	0.95024
EqualWidth	[38 , 217.1]	0.95024
Extended Chi2	[25.05 , 183.55]	0.95024
FUSINTER	[38.7 , 367.5]	0.95024
HDD	[-2,066.05 , -132.05]	0.95024
HellingerBD	[16.35 , 132.45]	0.95024
Heter-Disc	[74.5 , 400.65]	0.95024
ID3	[-1,406 , -296.3]	0.95024
IDD	[-55.35 , 34.15]	0.95024
Khiops	[37.8 , 261.55]	0.95024
MDLP	[66.95 , 385.95]	0.95024
Modified Chi2	[7.05 , 126.75]	0.95024
MODL	[-8.5 , 131.55]	0.95024
MVD	[62.45 , 393.95]	0.95024
PKID	[-24.45 , 74.45]	0.95024
UCPD	[56.9 , 366.35]	0.95024
USD	[-618.25 , -52.65]	0.95024
Zeta	[46.75 , 253.9]	0.95024

Table 45: Confidence intervals for algorithm FFD ( $\alpha=0.95$ )

## 16 Detailed results for FUSINTER

### 16.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	550.0	270.0	0.06026	0.058959
Ameva	326.0	494.0	$\geq 0.2$	1
Bayesian	761.0	59.0	1.6344E-7	0.000002
CACC	440.0	380.0	$\geq 0.2$	0.681836
CADD	238.0	582.0	$\geq 0.2$	1
CAIM	297.0	523.0	$\geq 0.2$	1
Chi2	320.5	499.5	$\geq 0.2$	1
ChiMerge	283.0	537.0	$\geq 0.2$	1
ClusterAnalysis	795.0	25.0	1.6444E-9	0
DIBD	201.0	619.0	$\geq 0.2$	1
Distance	3.0	817.0	$\geq 0.2$	1
EqualFrequency	699.0	121.0	4.098E-5	0.0001
EqualWidth	572.0	248.0	0.02884	0.028678
Extended Chi2	287.0	533.0	$\geq 0.2$	1
FFD	819.0	1.0	3.638E-12	0
HDD	788.0	32.0	5.03E-9	0
HellingerBD	623.0	197.0	0.00352	0.003984
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	715.5	104.5	1.1742E-5	0.000038
Khiops	693.5	86.5	5.043000000000001E-6	0.000021
MDLP	133.0	687.0	$\geq 0.2$	1
Modified Chi2	632.0	148.0	4.662E-4	0.000714
MODL	662.5	117.5	6.137E-5	0.000135
MVD	113.0	707.0	$\geq 0.2$	1
PKID	820.0	0.0	1.819E-12	0
UCPD	188.0	632.0	$\geq 0.2$	1
USD	819.0	1.0	3.638E-12	0
Zeta	313.0	507.0	$\geq 0.2$	1

Table 46: Results obtained by the Wilcoxon test for algorithm FUSINTER

### 16.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-133.6 , -1.35]	0.90276
Ameva	[-4.35 , 17.5]	0.90276
Bayesian	[-732.1 , -197.15]	0.90276
CACC	[-46.9 , 5.9]	0.90276
CADD	[5.05 , 29.7]	0.90276
CAIM	[-1.55 , 20.7]	0.90276
Chi2	[-2.1 , 24.3]	0.90276
ChiMerge	[0.45 , 21.15]	0.90276
ClusterAnalysis	[-1,105.75 , -144.55]	0.90276
DIBD	[6 , 22.2]	0.90276
Distance	[14.05 , 34.15]	0.90276
EqualFrequency	[-99.3 , -25.5]	0.90276
EqualWidth	[-69.2 , -3.1]	0.90276
Extended Chi2	[0.05 , 28.25]	0.90276
FFD	[-337.65 , -43.4]	0.90276
HDD	[-1,911.95 , -332.6]	0.90276
HellingerBD	[-79 , -10.1]	0.90276
Heter-Disc	[24.1 , 45.45]	0.90276
ID3	[-1,629.8 , -411.1]	0.90276
IDD	[-309.6 , -43.95]	0.90276
Khiops	[-57.2 , -9.95]	0.90276
MDLP	[7.6 , 21.5]	0.90276
Modified Chi2	[-48.5 , -12.75]	0.90276
MODL	[-168.95 , -13.35]	0.90276
MVD	[12.55 , 35.35]	0.90276
PKID	[-244.9 , -80.7]	0.90276
UCPD	[4.4 , 19.35]	0.90276
USD	[-697.15 , -211.5]	0.90276
Zeta	[-3.7 , 19.55]	0.90276

Table 47: Confidence intervals for algorithm FUSINTER ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-145 , 0.75]	0.95024
Ameva	[-7.6 , 19.5]	0.95024
Bayesian	[-993.3 , -179.3]	0.95024
CACC	[-69.25 , 7]	0.95024
CADD	[2.85 , 33.1]	0.95024
CAIM	[-3.85 , 22.2]	0.95024
Chi2	[-4.55 , 28.6]	0.95024
ChiMerge	[-1.85 , 22.65]	0.95024
ClusterAnalysis	[-1,208.4 , -124.5]	0.95024
DIBD	[4.85 , 24.7]	0.95024
Distance	[12.7 , 36.65]	0.95024
EqualFrequency	[-114.75 , -22.65]	0.95024
EqualWidth	[-84.35 , -1.35]	0.95024
Extended Chi2	[-2.25 , 30.25]	0.95024
FFD	[-367.5 , -38.7]	0.95024
HDD	[-2,416.2 , -266.9]	0.95024
HellingerBD	[-90.7 , -7.35]	0.95024
Heter-Disc	[22.8 , 50]	0.95024
ID3	[-1,961.35 , -378.25]	0.95024
IDD	[-337.75 , -38.95]	0.95024
Khiops	[-64.5 , -8.45]	0.95024
MDLP	[6.8 , 23.1]	0.95024
Modified Chi2	[-57.85 , -10.6]	0.95024
MODL	[-180.85 , -11.35]	0.95024
MVD	[10.95 , 37.8]	0.95024
PKID	[-271.25 , -74.85]	0.95024
UCPD	[3.55 , 22.15]	0.95024
USD	[-932.05 , -195.55]	0.95024
Zeta	[-6.3 , 21.4]	0.95024

Table 48: Confidence intervals for algorithm FUSINTER ( $\alpha=0.95$ )



## 17 Detailed results for HDD

### 17.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	28.0	792.0	$\geq 0.2$	1
Ameva	36.0	747.0	$\geq 0.2$	1
Bayesian	116.0	704.0	$\geq 0.2$	1
CACC	42.0	738.0	$\geq 0.2$	1
CADD	36.0	784.0	$\geq 0.2$	1
CAIM	10.5	809.5	$\geq 0.2$	1
Chi2	9.0	811.0	$\geq 0.2$	1
ChiMerge	3.0	780.0	$\geq 0.2$	1
ClusterAnalysis	292.0	528.0	$\geq 0.2$	1
DIBD	7.0	813.0	$\geq 0.2$	1
Distance	0.0	780.0	$\geq 0.2$	1
EqualFrequency	156.0	664.0	$\geq 0.2$	1
EqualWidth	71.0	749.0	$\geq 0.2$	1
Extended Chi2	20.0	800.0	$\geq 0.2$	1
FFD	117.0	663.0	$\geq 0.2$	1
FUSINTER	32.0	788.0	$\geq 0.2$	1
HellingerBD	99.0	684.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	286.5	533.5	$\geq 0.2$	1
IDD	63.0	757.0	$\geq 0.2$	1
Khiops	72.5	707.5	$\geq 0.2$	1
MDLP	15.0	805.0	$\geq 0.2$	1
Modified Chi2	64.0	756.0	$\geq 0.2$	1
MODL	48.0	772.0	$\geq 0.2$	1
MVD	23.0	797.0	$\geq 0.2$	1
PKID	141.0	639.0	$\geq 0.2$	1
UCPD	37.5	782.5	$\geq 0.2$	1
USD	143.0	677.0	$\geq 0.2$	1
Zeta	25.5	759.5	$\geq 0.2$	1

Table 49: Results obtained by the Wilcoxon test for algorithm HDD

### 17.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[367 , 1,777.5]	0.90276
Ameva	[351.65 , 1,922.05]	0.90276
Bayesian	[136.9 , 637.3]	0.90276
CACC	[320.35 , 1,889.75]	0.90276
CADD	[385.4 , 1,928.15]	0.90276
CAIM	[354.2 , 1,922.6]	0.90276
Chi2	[390.65 , 1,675.65]	0.90276
ChiMerge	[354.2 , 1,923.1]	0.90276
ClusterAnalysis	[-3.35 , 435.6]	0.90276
DIBD	[361.9 , 1,926.8]	0.90276
Distance	[390 , 1,925.5]	0.90276
EqualFrequency	[167.8 , 1,852]	0.90276
EqualWidth	[261.3 , 1,877.6]	0.90276
Extended Chi2	[357.9 , 1,200.9]	0.90276
FFD	[150.05 , 1,758.1]	0.90276
FUSINTER	[332.6 , 1,911.95]	0.90276
HellingerBD	[178.95 , 1,874.6]	0.90276
Heter-Disc	[412.8 , 1,933.1]	0.90276
ID3	[0 , 227.3]	0.90276
IDD	[295.2 , 1,632.85]	0.90276
Khiops	[279.1 , 1,897.3]	0.90276
MDLP	[353.4 , 1,922.4]	0.90276
Modified Chi2	[282.05 , 1,098.7]	0.90276
MODL	[299.7 , 1,453.45]	0.90276
MVD	[388.55 , 1,925.1]	0.90276
PKID	[168.4 , 1,829.45]	0.90276
UCPD	[377.5 , 1,921.75]	0.90276
USD	[111.15 , 728.65]	0.90276
Zeta	[354 , 1,922.6]	0.90276

Table 50: Confidence intervals for algorithm HDD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[269.85 , 2,265.25]	0.95024
Ameva	[302.5 , 2,445.4]	0.95024
Bayesian	[109.3 , 735.65]	0.95024
CACC	[276.05 , 1,931.75]	0.95024
CADD	[239.2 , 2,439.4]	0.95024
CAIM	[309.8 , 2,448]	0.95024
Chi2	[305.05 , 2,193.35]	0.95024
ChiMerge	[311.4 , 2,448.6]	0.95024
ClusterAnalysis	[-9.3 , 570.85]	0.95024
DIBD	[309.8 , 2,448.2]	0.95024
Distance	[327.15 , 2,447.8]	0.95024
EqualFrequency	[142.75 , 2,234.75]	0.95024
EqualWidth	[190.5 , 2,382.1]	0.95024
Extended Chi2	[306.15 , 1,619.6]	0.95024
FFD	[132.05 , 2,066.05]	0.95024
FUSINTER	[266.9 , 2,416.2]	0.95024
HellingerBD	[159.55 , 2,245.25]	0.95024
Heter-Disc	[336.05 , 2,453.3]	0.95024
ID3	[-12.35 , 278.8]	0.95024
IDD	[232.65 , 2,091.3]	0.95024
Khiops	[200.3 , 2,401.8]	0.95024
MDLP	[263.65 , 2,445.85]	0.95024
Modified Chi2	[259.95 , 1,447.2]	0.95024
MODL	[245.2 , 1,868.8]	0.95024
MVD	[334 , 2,451.6]	0.95024
PKID	[133.5 , 2,256.55]	0.95024
UCPD	[312.85 , 2,439.7]	0.95024
USD	[92.45 , 806.2]	0.95024
Zeta	[304.55 , 2,448]	0.95024

Table 51: Confidence intervals for algorithm HDD ( $\alpha=0.95$ )

## 18 Detailed results for HellingerBD

### 18.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	376.0	404.0	$\geq 0.2$	1
Ameva	181.5	603.5	$\geq 0.2$	1
Bayesian	693.0	127.0	6.268E-5	0.000139
CACC	380.0	440.0	$\geq 0.2$	1
CADD	154.0	666.0	$\geq 0.2$	1
CAIM	57.0	734.0	$\geq 0.2$	1
Chi2	152.0	668.0	$\geq 0.2$	1
ChiMerge	5.0	815.0	$\geq 0.2$	1
ClusterAnalysis	765.0	55.0	1.0366E-7	0.000002
DIBD	0.0	780.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	68.0	752.0	$\geq 0.2$	1
Extended Chi2	223.0	597.0	$\geq 0.2$	1
FFD	641.0	139.0	2.66E-4	0.000449
FUSINTER	197.0	623.0	$\geq 0.2$	1
HDD	684.0	99.0	5.57E-5	0.000135
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	769.0	11.0	2.0E-10	0
IDD	583.0	237.0	0.019246	0.019697
Khiops	309.0	511.0	$\geq 0.2$	1
MDLP	4.0	816.0	$\geq 0.2$	1
Modified Chi2	519.0	301.0	0.14608	0.141069
MODL	470.0	350.0	$\geq 0.2$	0.414534
MVD	54.0	766.0	$\geq 0.2$	1
PKID	645.0	135.0	2.054E-4	0.000363
UCPD	125.0	695.0	$\geq 0.2$	1
USD	710.0	110.0	1.806E-5	0.000054
Zeta	124.5	695.5	$\geq 0.2$	1

Table 52: Results obtained by the Wilcoxon test for algorithm HellingerBD

### 18.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-26.35 , 18.1]	0.90276
Ameva	[7.65 , 35.25]	0.90276
Bayesian	[-645.05 , -129.65]	0.90276
CACC	[-32.3 , 37.8]	0.90276
CADD	[18.5 , 50.1]	0.90276
CAIM	[14.85 , 43.2]	0.90276
Chi2	[14.7 , 59.55]	0.90276
ChiMerge	[16 , 52.35]	0.90276
ClusterAnalysis	[-862.25 , -152.35]	0.90276
DIBD	[20.85 , 62.9]	0.90276
Distance	[31.25 , 113.65]	0.90276
EqualFrequency	[-26.9 , -12]	0.90276
EqualWidth	[3 , 9.5]	0.90276
Extended Chi2	[10.3 , 48.5]	0.90276
FFD	[-116.75 , -20.65]	0.90276
FUSINTER	[10.1 , 79]	0.90276
HDD	[-1,874.6 , -178.95]	0.90276
Heter-Disc	[38.5 , 123.45]	0.90276
ID3	[-1,455.35 , -339.5]	0.90276
IDD	[-101.05 , -13.3]	0.90276
Khiops	[-2.15 , 31.35]	0.90276
MDLP	[30.3 , 91.55]	0.90276
Modified Chi2	[-38.85 , 3]	0.90276
MODL	[-58.85 , 9.2]	0.90276
MVD	[23.95 , 114.8]	0.90276
PKID	[-95.5 , -40.75]	0.90276
UCPD	[16.5 , 105.2]	0.90276
USD	[-608.9 , -157.75]	0.90276
Zeta	[12 , 37]	0.90276

Table 53: Confidence intervals for algorithm HellingerBD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-31.15 , 21.65]	0.95024
Ameva	[4.6 , 42.9]	0.95024
Bayesian	[-762.65 , -91]	0.95024
CACC	[-44.8 , 47.8]	0.95024
CADD	[16.2 , 58.1]	0.95024
CAIM	[12.5 , 46]	0.95024
Chi2	[12.35 , 68]	0.95024
ChiMerge	[14.85 , 56.9]	0.95024
ClusterAnalysis	[-912.5 , -138.9]	0.95024
DIBD	[18.95 , 71.7]	0.95024
Distance	[29.15 , 123.4]	0.95024
EqualFrequency	[-29.5 , -11.5]	0.95024
EqualWidth	[3 , 11.05]	0.95024
Extended Chi2	[6.7 , 55.7]	0.95024
FFD	[-132.45 , -16.35]	0.95024
FUSINTER	[7.35 , 90.7]	0.95024
HDD	[-2,245.25 , -159.55]	0.95024
Heter-Disc	[33.45 , 135.5]	0.95024
ID3	[-1,779.95 , -318.6]	0.95024
IDD	[-122.1 , -7.5]	0.95024
Khiops	[-3.55 , 39.8]	0.95024
MDLP	[28.05 , 106.35]	0.95024
Modified Chi2	[-44.7 , 5.8]	0.95024
MODL	[-75.55 , 13.35]	0.95024
MVD	[21.6 , 126.15]	0.95024
PKID	[-104.05 , -37.85]	0.95024
UCPD	[14.35 , 120.55]	0.95024
USD	[-662.85 , -115.6]	0.95024
Zeta	[8 , 45]	0.95024

Table 54: Confidence intervals for algorithm HellingerBD ( $\alpha=0.95$ )

## 19 Detailed results for Heter-Disc

### 19.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	750.0	33.0	4.676E-8	0.000001
Ameva	820.0	0.0	1.819E-12	0
Bayesian	780.0	0.0	3.638E-12	0
CACC	818.5	1.5	1.8186E-11	0
CADD	724.0	96.0	5.846E-6	0.00002
CAIM	820.0	0.0	1.819E-12	0
Chi2	751.0	69.0	4.766E-7	0.000004
ChiMerge	820.0	0.0	1.819E-12	0
ClusterAnalysis	820.0	0.0	1.819E-12	0
DIBD	814.0	6.0	2.546E-11	0
Distance	773.0	47.0	3.948E-8	0.000001
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	820.0	0.0	1.819E-12	0
Extended Chi2	688.0	92.0	8.162E-6	0.000029
FFD	820.0	0.0	1.819E-12	0
FUSINTER	820.0	0.0	1.819E-12	0
HDD	820.0	0.0	1.819E-12	0
HellingerBD	820.0	0.0	1.819E-12	0
ID3	820.0	0.0	1.819E-12	0
IDD	813.5	6.5	1.2005000000000001E-10	0
Khiops	820.0	0.0	1.819E-12	0
MDLP	775.0	45.0	3.062E-8	0.000001
Modified Chi2	803.5	16.5	3.42E-10	0
MODL	820.0	0.0	1.819E-12	0
MVD	656.5	128.5	0.0016767000000000002	0.002014
PKID	820.0	0.0	1.819E-12	0
UCPD	820.0	0.0	1.819E-12	0
USD	820.0	0.0	1.819E-12	0
Zeta	820.0	0.0	1.819E-12	0

Table 55: Results obtained by the Wilcoxon test for algorithm Heter-Disc

### 19.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-175.9 , -37.9]	0.90276
Ameva	[-49.6 , -21.9]	0.90276
Bayesian	[-768 , -233.5]	0.90276
CACC	[-88.35 , -23.8]	0.90276
CADD	[-25.2 , -4.75]	0.90276
CAIM	[-42.6 , -13.5]	0.90276
Chi2	[-31.9 , -15.95]	0.90276
ChiMerge	[-39.55 , -13]	0.90276
ClusterAnalysis	[-1,134.25 , -192.9]	0.90276
DIBD	[-27.3 , -9.55]	0.90276
Distance	[-15.4 , -5.8]	0.90276
EqualFrequency	[-136.1 , -57]	0.90276
EqualWidth	[-117.95 , -29.6]	0.90276
Extended Chi2	[-29.45 , -9.45]	0.90276
FFD	[-358.15 , -85.5]	0.90276
FUSINTER	[-45.45 , -24.1]	0.90276
HDD	[-1,933.1 , -412.8]	0.90276
HellingerBD	[-123.45 , -38.5]	0.90276
ID3	[-1,696 , -442.25]	0.90276
IDD	[-345.2 , -82.55]	0.90276
Khiops	[-107.6 , -40.65]	0.90276
MDLP	[-18.65 , -7.45]	0.90276
Modified Chi2	[-100.2 , -43.6]	0.90276
MODL	[-207.65 , -49.4]	0.90276
MVD	[-14.6 , -4.75]	0.90276
PKID	[-331.5 , -108]	0.90276
UCPD	[-25 , -15.75]	0.90276
USD	[-742.15 , -251.35]	0.90276
Zeta	[-46.15 , -13.5]	0.90276

Table 56: Confidence intervals for algorithm Heter-Disc ( $\alpha=0.90$ )



$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-189 , -35.7]	0.95024
Ameva	[-53.7 , -19.55]	0.95024
Bayesian	[-1,024.85 , -219]	0.95024
CACC	[-112.9 , -20.75]	0.95024
CADD	[-26.5 , -3.8]	0.95024
CAIM	[-45.75 , -11.5]	0.95024
Chi2	[-33.85 , -14.85]	0.95024
ChiMerge	[-41.95 , -11.3]	0.95024
ClusterAnalysis	[-1,246.9 , -180.4]	0.95024
DIBD	[-32.1 , -8.9]	0.95024
Distance	[-16.3 , -5.3]	0.95024
EqualFrequency	[-150.15 , -54.5]	0.95024
EqualWidth	[-127 , -27.45]	0.95024
Extended Chi2	[-33.3 , -8.3]	0.95024
FFD	[-400.65 , -74.5]	0.95024
FUSINTER	[-50 , -22.8]	0.95024
HDD	[-2,453.3 , -336.05]	0.95024
HellingerBD	[-135.5 , -33.45]	0.95024
ID3	[-2,112.15 , -404.75]	0.95024
IDD	[-424.3 , -78]	0.95024
Khiops	[-117.05 , -37.65]	0.95024
MDLP	[-19.8 , -6.85]	0.95024
Modified Chi2	[-126.9 , -40.5]	0.95024
MODL	[-219.35 , -41.8]	0.95024
MVD	[-16 , -3.75]	0.95024
PKID	[-354.5 , -99.65]	0.95024
UCPD	[-28.75 , -15.35]	0.95024
USD	[-979.5 , -228]	0.95024
Zeta	[-49.3 , -12.2]	0.95024

Table 57: Confidence intervals for algorithm Heter-Disc ( $\alpha=0.95$ )

## 20 Detailed results for ID3

### 20.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	0.0	820.0	$\geq 0.2$	1
Ameva	5.0	815.0	$\geq 0.2$	1
Bayesian	0.0	820.0	$\geq 0.2$	1
CACC	0.0	820.0	$\geq 0.2$	1
CADD	0.0	820.0	$\geq 0.2$	1
CAIM	0.0	820.0	$\geq 0.2$	1
Chi2	0.0	820.0	$\geq 0.2$	1
ChiMerge	0.0	820.0	$\geq 0.2$	1
ClusterAnalysis	197.0	623.0	$\geq 0.2$	1
DIBD	0.0	820.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	37.0	783.0	$\geq 0.2$	1
EqualWidth	1.5	818.5	$\geq 0.2$	1
Extended Chi2	0.0	820.0	$\geq 0.2$	1
FFD	1.5	818.5	$\geq 0.2$	1
FUSINTER	0.0	820.0	$\geq 0.2$	1
HDD	533.5	286.5	$\geq 0.2$	0.220409
HellingerBD	11.0	769.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
IDD	0.0	820.0	$\geq 0.2$	1
Khiops	0.0	780.0	$\geq 0.2$	1
MDLP	0.0	820.0	$\geq 0.2$	1
Modified Chi2	0.0	820.0	$\geq 0.2$	1
MODL	0.0	820.0	$\geq 0.2$	1
MVD	0.0	820.0	$\geq 0.2$	1
PKID	3.0	780.0	$\geq 0.2$	1
UCPD	1.0	819.0	$\geq 0.2$	1
USD	0.0	820.0	$\geq 0.2$	1
Zeta	5.0	815.0	$\geq 0.2$	1

Table 58: Results obtained by the Wilcoxon test for algorithm ID3

### 20.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[401.2 , 1,443.95]	0.90276
Ameva	[420.15 , 1,633.15]	0.90276
Bayesian	[160.8 , 537.5]	0.90276
CACC	[352.4 , 1,442.25]	0.90276
CADD	[429.15 , 1,410.9]	0.90276
CAIM	[424.85 , 1,635.05]	0.90276
Chi2	[425.15 , 1,618.25]	0.90276
ChiMerge	[424.85 , 1,635.05]	0.90276
ClusterAnalysis	[65.8 , 403.7]	0.90276
DIBD	[432.25 , 1,644]	0.90276
Distance	[438.65 , 1,639.65]	0.90276
EqualFrequency	[326.9 , 1,442.05]	0.90276
EqualWidth	[372 , 1,489.75]	0.90276
Extended Chi2	[408.35 , 1,570.75]	0.90276
FFD	[311.7 , 1,157.8]	0.90276
FUSINTER	[411.1 , 1,629.8]	0.90276
HDD	[-227.3 , 0]	0.90276
HellingerBD	[339.5 , 1,455.35]	0.90276
Heter-Disc	[442.25 , 1,696]	0.90276
IDD	[358 , 1,359.6]	0.90276
Khiops	[389.7 , 1,537.8]	0.90276
MDLP	[438.9 , 1,630.55]	0.90276
Modified Chi2	[360.45 , 1,229.65]	0.90276
MODL	[334.9 , 1,460.45]	0.90276
MVD	[433.35 , 1,669.25]	0.90276
PKID	[287.45 , 1,361.3]	0.90276
UCPD	[417.25 , 1,645]	0.90276
USD	[169.95 , 660.8]	0.90276
Zeta	[423.85 , 1,635.05]	0.90276

Table 59: Confidence intervals for algorithm ID3 ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[361.6 , 1,828.65]	0.95024
Ameva	[382.55 , 2,080.8]	0.95024
Bayesian	[148 , 569.25]	0.95024
CACC	[336.15 , 1,542.5]	0.95024
CADD	[393 , 2,021.05]	0.95024
CAIM	[387.95 , 2,102.65]	0.95024
Chi2	[382.8 , 2,108.5]	0.95024
ChiMerge	[388.35 , 2,103.75]	0.95024
ClusterAnalysis	[51.3 , 450.4]	0.95024
DIBD	[390.85 , 2,106.65]	0.95024
Distance	[394.05 , 2,123.3]	0.95024
EqualFrequency	[297.8 , 1,752.95]	0.95024
EqualWidth	[351.7 , 1,798.45]	0.95024
Extended Chi2	[389.45 , 1,903.75]	0.95024
FFD	[296.3 , 1,406]	0.95024
FUSINTER	[378.25 , 1,961.35]	0.95024
HDD	[-278.8 , 12.35]	0.95024
HellingerBD	[318.6 , 1,779.95]	0.95024
Heter-Disc	[404.75 , 2,112.15]	0.95024
IDD	[318.55 , 1,640.15]	0.95024
Khiops	[366.25 , 1,875.9]	0.95024
MDLP	[393.85 , 2,121.7]	0.95024
Modified Chi2	[345.15 , 1,320.3]	0.95024
MODL	[319.7 , 1,730.2]	0.95024
MVD	[388.1 , 2,104.5]	0.95024
PKID	[274.5 , 1,574.1]	0.95024
UCPD	[381.45 , 2,072.45]	0.95024
USD	[157.1 , 720.4]	0.95024
Zeta	[386.45 , 2,102.15]	0.95024

Table 60: Confidence intervals for algorithm ID3 ( $\alpha=0.95$ )

## 21 Detailed results for IDD

### 21.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	3.0	780.0	$\geq 0.2$	1
Ameva	105.5	714.5	$\geq 0.2$	1
Bayesian	759.0	21.0	1.6262E-9	0
CACC	352.5	467.5	$\geq 0.2$	1
CADD	131.0	689.0	$\geq 0.2$	1
CAIM	72.0	748.0	$\geq 0.2$	1
Chi2	120.0	700.0	$\geq 0.2$	1
ChiMerge	69.0	751.0	$\geq 0.2$	1
ClusterAnalysis	703.0	117.0	3.062E-5	0.00008
DIBD	35.0	745.0	$\geq 0.2$	1
Distance	39.0	781.0	$\geq 0.2$	1
EqualFrequency	293.0	527.0	$\geq 0.2$	1
EqualWidth	166.0	654.0	$\geq 0.2$	1
Extended Chi2	233.0	587.0	$\geq 0.2$	1
FFD	426.0	394.0	$\geq 0.2$	0.824484
FUSINTER	104.5	715.5	$\geq 0.2$	1
HDD	757.0	63.0	2.536E-7	0.000003
HellingerBD	237.0	583.0	$\geq 0.2$	1
Heter-Disc	6.5	813.5	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
Khiops	229.0	591.0	$\geq 0.2$	1
MDLP	69.0	751.0	$\geq 0.2$	1
Modified Chi2	338.0	482.0	$\geq 0.2$	1
MODL	392.0	428.0	$\geq 0.2$	1
MVD	51.0	769.0	$\geq 0.2$	1
PKID	474.0	346.0	$\geq 0.2$	0.385163
UCPD	88.0	732.0	$\geq 0.2$	1
USD	820.0	0.0	1.819E-12	0
Zeta	95.0	725.0	$\geq 0.2$	1

Table 61: Results obtained by the Wilcoxon test for algorithm IDD

### 21.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[42.45 , 140.65]	0.90276
Ameva	[43.7 , 311.6]	0.90276
Bayesian	[-464 , -146.9]	0.90276
CACC	[-8.8 , 71.95]	0.90276
CADD	[52.8 , 278.7]	0.90276
CAIM	[51.2 , 314]	0.90276
Chi2	[56.35 , 298.1]	0.90276
ChiMerge	[51.6 , 314.2]	0.90276
ClusterAnalysis	[-608.3 , -87.85]	0.90276
DIBD	[57.5 , 325.25]	0.90276
Distance	[72.4 , 329.9]	0.90276
EqualFrequency	[-1.5 , 87.4]	0.90276
EqualWidth	[30.15 , 157.6]	0.90276
Extended Chi2	[19.1 , 117.85]	0.90276
FFD	[-28.25 , 37.8]	0.90276
FUSINTER	[43.95 , 309.6]	0.90276
HDD	[-1,632.85 , -295.2]	0.90276
HellingerBD	[13.3 , 101.05]	0.90276
Heter-Disc	[82.55 , 345.2]	0.90276
ID3	[-1,359.6 , -358]	0.90276
Khiops	[12.05 , 220.5]	0.90276
MDLP	[61.9 , 307.75]	0.90276
Modified Chi2	[-10.5 , 50]	0.90276
MODL	[-15.65 , 30.05]	0.90276
MVD	[68.55 , 315.3]	0.90276
PKID	[-34.65 , 35.4]	0.90276
UCPD	[62.9 , 320.35]	0.90276
USD	[-450.05 , -161.1]	0.90276
Zeta	[49.65 , 313.45]	0.90276

Table 62: Confidence intervals for algorithm IDD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[39.7 , 181.35]	0.95024
Ameva	[39.3 , 364.85]	0.95024
Bayesian	[-634.1 , -118.85]	0.95024
CACC	[-15.75 , 92.1]	0.95024
CADD	[40.9 , 341.65]	0.95024
CAIM	[44.9 , 368.7]	0.95024
Chi2	[51.2 , 370.95]	0.95024
ChiMerge	[45.55 , 373.25]	0.95024
ClusterAnalysis	[-729.3 , -75.1]	0.95024
DIBD	[49.4 , 370.3]	0.95024
Distance	[69.15 , 387.7]	0.95024
EqualFrequency	[-6.5 , 106.8]	0.95024
EqualWidth	[23.3 , 247.95]	0.95024
Extended Chi2	[10.75 , 129.9]	0.95024
FFD	[-34.15 , 55.35]	0.95024
FUSINTER	[38.95 , 337.75]	0.95024
HDD	[-2,091.3 , -232.65]	0.95024
HellingerBD	[7.5 , 122.1]	0.95024
Heter-Disc	[78 , 424.3]	0.95024
ID3	[-1,640.15 , -318.55]	0.95024
Khiops	[6.3 , 273.5]	0.95024
MDLP	[56.75 , 370]	0.95024
Modified Chi2	[-14.65 , 61.5]	0.95024
MODL	[-22.1 , 37.1]	0.95024
MVD	[61.55 , 405.75]	0.95024
PKID	[-36.55 , 110.4]	0.95024
UCPD	[54.5 , 399.05]	0.95024
USD	[-575.65 , -151.95]	0.95024
Zeta	[43.3 , 366.75]	0.95024

Table 63: Confidence intervals for algorithm IDD ( $\alpha=0.95$ )

## 22 Detailed results for Khiops

### 22.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	450.0	370.0	$\geq 0.2$	0.586185
Ameva	192.0	628.0	$\geq 0.2$	1
Bayesian	699.0	121.0	4.098E-5	0.0001
CACC	336.0	444.0	$\geq 0.2$	1
CADD	149.0	671.0	$\geq 0.2$	1
CAIM	156.0	664.0	$\geq 0.2$	1
Chi2	176.0	644.0	$\geq 0.2$	1
ChiMerge	108.0	712.0	$\geq 0.2$	1
ClusterAnalysis	776.0	44.0	2.692E-8	0.000001
DIBD	83.0	737.0	$\geq 0.2$	1
Distance	3.0	817.0	$\geq 0.2$	1
EqualFrequency	631.0	189.0	0.002392	0.002908
EqualWidth	393.0	387.0	$\geq 0.2$	0.961045
Extended Chi2	229.0	591.0	$\geq 0.2$	1
FFD	815.5	4.5	6.185E-11	0
FUSINTER	86.5	693.5	$\geq 0.2$	1
HDD	707.5	72.5	1.3488000000000001E-6	0.000009
HellingerBD	511.0	309.0	0.1787	0.172476
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	780.0	0.0	3.638E-12	0
IDD	591.0	229.0	0.014108	0.014704
MDLP	3.0	817.0	$\geq 0.2$	1
Modified Chi2	498.0	322.0	$\geq 0.2$	0.234221
MODL	512.0	308.0	0.17436	0.167571
MVD	30.0	790.0	$\geq 0.2$	1
PKID	780.0	0.0	3.638E-12	0
UCPD	60.0	760.0	$\geq 0.2$	1
USD	761.0	59.0	1.6344E-7	0.000002
Zeta	185.0	635.0	$\geq 0.2$	1

Table 64: Results obtained by the Wilcoxon test for algorithm Khiops

### 22.2 Confidence intervals for Median of differences



$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-75.35 , 9.15]	0.90276
Ameva	[9.25 , 53.05]	0.90276
Bayesian	[-716.7 , -140.85]	0.90276
CACC	[-18.1 , 26.45]	0.90276
CADD	[18.1 , 54.35]	0.90276
CAIM	[13.5 , 66.55]	0.90276
Chi2	[12.65 , 79.15]	0.90276
ChiMerge	[16.1 , 68.95]	0.90276
ClusterAnalysis	[-973.75 , -141.4]	0.90276
DIBD	[19.05 , 69.9]	0.90276
Distance	[33.2 , 96.5]	0.90276
EqualFrequency	[-53.95 , -12.75]	0.90276
EqualWidth	[-17.2 , 7.7]	0.90276
Extended Chi2	[9.25 , 63.9]	0.90276
FFD	[-205.4 , -44.85]	0.90276
FUSINTER	[9.95 , 57.2]	0.90276
HDD	[-1,897.3 , -279.1]	0.90276
HellingerBD	[-31.35 , 2.15]	0.90276
Heter-Disc	[40.65 , 107.6]	0.90276
ID3	[-1,537.8 , -389.7]	0.90276
IDD	[-220.5 , -12.05]	0.90276
MDLP	[31.65 , 89.8]	0.90276
Modified Chi2	[-33.25 , 5.85]	0.90276
MODL	[-87.1 , 1.95]	0.90276
MVD	[26.95 , 88.35]	0.90276
PKID	[-193.7 , -69.05]	0.90276
UCPD	[20.15 , 81.7]	0.90276
USD	[-646.4 , -175.15]	0.90276
Zeta	[10.95 , 64.95]	0.90276

Table 65: Confidence intervals for algorithm Khiops ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-90.45 , 11.1]	0.95024
Ameva	[8.1 , 64.95]	0.95024
Bayesian	[-935.55 , -97.5]	0.95024
CACC	[-35.15 , 33.8]	0.95024
CADD	[16.3 , 68.35]	0.95024
CAIM	[11.5 , 72.95]	0.95024
Chi2	[10.15 , 90.1]	0.95024
ChiMerge	[14.35 , 75.2]	0.95024
ClusterAnalysis	[-1,149.5 , -127]	0.95024
DIBD	[17.2 , 79.45]	0.95024
Distance	[30.1 , 104.45]	0.95024
EqualFrequency	[-59.3 , -10.15]	0.95024
EqualWidth	[-23.65 , 8.9]	0.95024
Extended Chi2	[6.95 , 76.4]	0.95024
FFD	[-261.55 , -37.8]	0.95024
FUSINTER	[8.45 , 64.5]	0.95024
HDD	[-2,401.8 , -200.3]	0.95024
HellingerBD	[-39.8 , 3.55]	0.95024
Heter-Disc	[37.65 , 117.05]	0.95024
ID3	[-1,875.9 , -366.25]	0.95024
IDD	[-273.5 , -6.3]	0.95024
MDLP	[29.1 , 94.05]	0.95024
Modified Chi2	[-40.3 , 11.65]	0.95024
MODL	[-96.75 , 4.2]	0.95024
MVD	[25.6 , 97.25]	0.95024
PKID	[-208.75 , -64.65]	0.95024
UCPD	[18.1 , 88.9]	0.95024
USD	[-865.6 , -136.4]	0.95024
Zeta	[9 , 70.9]	0.95024

Table 66: Confidence intervals for algorithm Khiops ( $\alpha=0.95$ )

## 23 Detailed results for MDLP

### 23.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	680.0	140.0	1.4978E-4	0.000271
Ameva	587.0	193.0	0.005188	0.005849
Bayesian	788.0	32.0	5.03E-9	0
CACC	535.0	245.0	0.04284	0.042311
CADD	346.5	433.5	$\geq 0.2$	1
CAIM	564.0	216.0	0.014286	0.014886
Chi2	522.0	298.0	0.13508	0.130497
ChiMerge	558.5	221.5	0.017857	0.01775
ClusterAnalysis	770.0	10.0	1.5644E-10	0
DIBD	504.5	315.5	$\geq 0.2$	0.200872
Distance	181.5	601.5	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	815.0	5.0	1.819E-11	0
Extended Chi2	439.0	381.0	$\geq 0.2$	0.691723
FFD	820.0	0.0	1.819E-12	0
FUSINTER	687.0	133.0	9.446E-5	0.000192
HDD	805.0	15.0	2.492E-10	0
HellingerBD	816.0	4.0	1.2732E-11	0
Heter-Disc	45.0	775.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	751.0	69.0	4.766E-7	0.000004
Khiops	817.0	3.0	9.094E-12	0
Modified Chi2	768.0	52.0	7.284E-8	0.000001
MODL	801.0	19.0	5.584E-10	0
MVD	412.0	408.0	$\geq 0.2$	0.973194
PKID	820.0	0.0	1.819E-12	0
UCPD	558.0	222.0	0.018214	0.018702
USD	780.0	0.0	3.638E-12	0
Zeta	570.5	209.5	0.010876	0.011398

Table 67: Results obtained by the Wilcoxon test for algorithm MDLP

### 23.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-154.05 , -16.85]	0.90276
Ameva	[-23.15 , -3.4]	0.90276
Bayesian	[-746.05 , -219.9]	0.90276
CACC	[-74.65 , -2.05]	0.90276
CADD	[-4.3 , 4.65]	0.90276
CAIM	[-16.25 , -1.9]	0.90276
Chi2	[-18.45 , 0.65]	0.90276
ChiMerge	[-14.4 , -1.5]	0.90276
ClusterAnalysis	[-1,101.55 , -183.3]	0.90276
DIBD	[-7.05 , 0.5]	0.90276
Distance	[0.5 , 4.25]	0.90276
EqualFrequency	[-117.05 , -50.5]	0.90276
EqualWidth	[-81.9 , -23.55]	0.90276
Extended Chi2	[-11.3 , 5.85]	0.90276
FFD	[-336.6 , -76.6]	0.90276
FUSINTER	[-21.5 , -7.6]	0.90276
HDD	[-1,922.4 , -353.4]	0.90276
HellingerBD	[-91.55 , -30.3]	0.90276
Heter-Disc	[7.45 , 18.65]	0.90276
ID3	[-1,630.55 , -438.9]	0.90276
IDD	[-307.75 , -61.9]	0.90276
Khiops	[-89.8 , -31.65]	0.90276
Modified Chi2	[-71.05 , -26.9]	0.90276
MODL	[-181.5 , -33.1]	0.90276
MVD	[-4 , 7]	0.90276
PKID	[-302.65 , -98.8]	0.90276
UCPD	[-10.5 , -3.1]	0.90276
USD	[-710.35 , -225.55]	0.90276
Zeta	[-20.3 , -1.95]	0.90276

Table 68: Confidence intervals for algorithm MDLP ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-164.2 , -13.45]	0.95024
Ameva	[-25.15 , -2.7]	0.95024
Bayesian	[-966.8 , -190.6]	0.95024
CACC	[-83.75 , -0.3]	0.95024
CADD	[-7.2 , 5.3]	0.95024
CAIM	[-18.9 , -1.25]	0.95024
Chi2	[-20.4 , 2.65]	0.95024
ChiMerge	[-17.5 , -1]	0.95024
ClusterAnalysis	[-1,229.55 , -170.05]	0.95024
DIBD	[-8.1 , 1.2]	0.95024
Distance	[0.3 , 5]	0.95024
EqualFrequency	[-124.3 , -46.75]	0.95024
EqualWidth	[-100.75 , -21.95]	0.95024
Extended Chi2	[-15.5 , 7.75]	0.95024
FFD	[-385.95 , -66.95]	0.95024
FUSINTER	[-23.1 , -6.8]	0.95024
HDD	[-2,445.85 , -263.65]	0.95024
HellingerBD	[-106.35 , -28.05]	0.95024
Heter-Disc	[6.85 , 19.8]	0.95024
ID3	[-2,121.7 , -393.85]	0.95024
IDD	[-370 , -56.75]	0.95024
Khiops	[-94.05 , -29.1]	0.95024
Modified Chi2	[-78.4 , -24.45]	0.95024
MODL	[-195.55 , -29.35]	0.95024
MVD	[-4.85 , 9.1]	0.95024
PKID	[-317.35 , -92.7]	0.95024
UCPD	[-11.3 , -1.9]	0.95024
USD	[-936.55 , -215.6]	0.95024
Zeta	[-21.75 , -1.25]	0.95024

Table 69: Confidence intervals for algorithm MDLP ( $\alpha=0.95$ )

## 24 Detailed results for Modified Chi2

### 24.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	253.0	567.0	$\geq 0.2$	1
Ameva	202.0	618.0	$\geq 0.2$	1
Bayesian	669.0	151.0	2.982E-4	0.000487
CACC	341.0	479.0	$\geq 0.2$	1
CADD	114.0	706.0	$\geq 0.2$	1
CAIM	171.0	649.0	$\geq 0.2$	1
Chi2	21.0	759.0	$\geq 0.2$	1
ChiMerge	157.0	663.0	$\geq 0.2$	1
ClusterAnalysis	709.0	111.0	1.95E-5	0.000057
DIBD	131.0	689.0	$\geq 0.2$	1
Distance	12.5	807.5	$\geq 0.2$	1
EqualFrequency	404.0	416.0	$\geq 0.2$	1
EqualWidth	252.0	568.0	$\geq 0.2$	1
Extended Chi2	37.0	783.0	$\geq 0.2$	1
FFD	606.0	214.0	0.007584	0.008261
FUSINTER	148.0	632.0	$\geq 0.2$	1
HDD	756.0	64.0	2.822E-7	0.000003
HellingerBD	301.0	519.0	$\geq 0.2$	1
Heter-Disc	16.5	803.5	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	482.0	338.0	$\geq 0.2$	0.329811
Khiops	322.0	498.0	$\geq 0.2$	1
MDLP	52.0	768.0	$\geq 0.2$	1
MODL	423.0	357.0	$\geq 0.2$	0.640148
MVD	76.0	744.0	$\geq 0.2$	1
PKID	584.0	236.0	0.018526	0.019001
UCPD	140.0	680.0	$\geq 0.2$	1
USD	703.5	116.5	2.953E-5	0.000075
Zeta	185.0	635.0	$\geq 0.2$	1

Table 70: Results obtained by the Wilcoxon test for algorithm Modified Chi2

### 24.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[4.3 , 34.75]	0.90276
Ameva	[11.8 , 59.85]	0.90276
Bayesian	[-322 , -66.6]	0.90276
CACC	[-16.75 , 55.6]	0.90276
CADD	[25.75 , 76.95]	0.90276
CAIM	[16.8 , 63.05]	0.90276
Chi2	[21.35 , 71.3]	0.90276
ChiMerge	[18.1 , 63.65]	0.90276
ClusterAnalysis	[-775 , -109.8]	0.90276
DIBD	[22.25 , 71.75]	0.90276
Distance	[36.35 , 88.95]	0.90276
EqualFrequency	[-23.6 , 27.75]	0.90276
EqualWidth	[3 , 43.75]	0.90276
Extended Chi2	[26.5 , 76.3]	0.90276
FFD	[-115.25 , -10.5]	0.90276
FUSINTER	[12.75 , 48.5]	0.90276
HDD	[-1,098.7 , -282.05]	0.90276
HellingerBD	[-3 , 38.85]	0.90276
Heter-Disc	[43.6 , 100.2]	0.90276
ID3	[-1,229.65 , -360.45]	0.90276
IDD	[-50 , 10.5]	0.90276
Khiops	[-5.85 , 33.25]	0.90276
MDLP	[26.9 , 71.05]	0.90276
MODL	[-39.25 , 14.2]	0.90276
MVD	[34.7 , 101.2]	0.90276
PKID	[-84.2 , -11.6]	0.90276
UCPD	[21.15 , 82.55]	0.90276
USD	[-360.8 , -149.1]	0.90276
Zeta	[14.7 , 62.15]	0.90276

Table 71: Confidence intervals for algorithm Modified Chi2 ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[1.15 , 40.35]	0.95024
Ameva	[9.15 , 67.1]	0.95024
Bayesian	[-385.9 , -47.15]	0.95024
CACC	[-34.15 , 65.85]	0.95024
CADD	[23.35 , 85]	0.95024
CAIM	[14.35 , 70.25]	0.95024
Chi2	[18.2 , 95.85]	0.95024
ChiMerge	[15.25 , 71.1]	0.95024
ClusterAnalysis	[-892.55 , -93.85]	0.95024
DIBD	[20.15 , 79.15]	0.95024
Distance	[31.9 , 97.5]	0.95024
EqualFrequency	[-27.45 , 34]	0.95024
EqualWidth	[1.2 , 48.9]	0.95024
Extended Chi2	[22.5 , 84.3]	0.95024
FFD	[-126.75 , -7.05]	0.95024
FUSINTER	[10.6 , 57.85]	0.95024
HDD	[-1,447.2 , -259.95]	0.95024
HellingerBD	[-5.8 , 44.7]	0.95024
Heter-Disc	[40.5 , 126.9]	0.95024
ID3	[-1,320.3 , -345.15]	0.95024
IDD	[-61.5 , 14.65]	0.95024
Khiops	[-11.65 , 40.3]	0.95024
MDLP	[24.45 , 78.4]	0.95024
MODL	[-47.8 , 16.7]	0.95024
MVD	[31.25 , 131.5]	0.95024
PKID	[-99.65 , -6.4]	0.95024
UCPD	[17.7 , 104.05]	0.95024
USD	[-425.15 , -100.75]	0.95024
Zeta	[11.8 , 69.7]	0.95024

Table 72: Confidence intervals for algorithm Modified Chi2 ( $\alpha=0.95$ )



## 25 Detailed results for MODL

### 25.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	144.0	676.0	$\geq 0.2$	1
Ameva	182.0	638.0	$\geq 0.2$	1
Bayesian	767.0	53.0	8.202E-8	0.000002
CACC	313.0	507.0	$\geq 0.2$	1
CADD	130.0	690.0	$\geq 0.2$	1
CAIM	141.5	678.5	$\geq 0.2$	1
Chi2	119.0	701.0	$\geq 0.2$	1
ChiMerge	119.0	661.0	$\geq 0.2$	1
ClusterAnalysis	742.0	78.0	1.1622E-6	0.000008
DIBD	51.0	769.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	442.0	378.0	$\geq 0.2$	0.661693
EqualWidth	275.0	545.0	$\geq 0.2$	1
Extended Chi2	225.0	595.0	$\geq 0.2$	1
FFD	527.0	293.0	0.11814	0.114255
FUSINTER	117.5	662.5	$\geq 0.2$	1
HDD	772.0	48.0	4.474E-8	0.000001
HellingerBD	350.0	470.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	428.0	392.0	$\geq 0.2$	0.803621
Khiops	308.0	512.0	$\geq 0.2$	1
MDLP	19.0	801.0	$\geq 0.2$	1
Modified Chi2	357.0	423.0	$\geq 0.2$	1
MVD	62.0	758.0	$\geq 0.2$	1
PKID	537.0	283.0	0.0892	0.086572
UCPD	128.5	691.5	$\geq 0.2$	1
USD	819.0	1.0	3.638E-12	0
Zeta	154.5	665.5	$\geq 0.2$	1

Table 73: Results obtained by the Wilcoxon test for algorithm MODL

### 25.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[14 , 78.05]	0.90276
Ameva	[13.5 , 120.95]	0.90276
Bayesian	[-385.15 , -122.4]	0.90276
CACC	[-3.95 , 57.45]	0.90276
CADD	[26.7 , 187.5]	0.90276
CAIM	[18.75 , 124.25]	0.90276
Chi2	[32.85 , 170.8]	0.90276
ChiMerge	[19.1 , 129.8]	0.90276
ClusterAnalysis	[-779.25 , -101.8]	0.90276
DIBD	[22.7 , 127.15]	0.90276
Distance	[41.85 , 192.8]	0.90276
EqualFrequency	[-30.35 , 37.15]	0.90276
EqualWidth	[0.95 , 89.45]	0.90276
Extended Chi2	[13.3 , 107.2]	0.90276
FFD	[-96.4 , 2.7]	0.90276
FUSINTER	[13.35 , 168.95]	0.90276
HDD	[-1,453.45 , -299.7]	0.90276
HellingerBD	[-9.2 , 58.85]	0.90276
Heter-Disc	[49.4 , 207.65]	0.90276
ID3	[-1,460.45 , -334.9]	0.90276
IDD	[-30.05 , 15.65]	0.90276
Khiops	[-1.95 , 87.1]	0.90276
MDLP	[33.1 , 181.5]	0.90276
Modified Chi2	[-14.2 , 39.25]	0.90276
MVD	[29.55 , 198.1]	0.90276
PKID	[-68.7 , -0.85]	0.90276
UCPD	[24.1 , 185.4]	0.90276
USD	[-444.55 , -156.4]	0.90276
Zeta	[17.8 , 124.2]	0.90276

Table 74: Confidence intervals for algorithm MODL ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[12.1 , 89.3]	0.95024
Ameva	[9.8 , 137.55]	0.95024
Bayesian	[-440.35 , -108.4]	0.95024
CACC	[-9.15 , 65.25]	0.95024
CADD	[20.7 , 197.55]	0.95024
CAIM	[15.9 , 139.9]	0.95024
Chi2	[26.05 , 191.25]	0.95024
ChiMerge	[16.4 , 141.25]	0.95024
ClusterAnalysis	[-919.2 , -91.1]	0.95024
DIBD	[21.2 , 153.15]	0.95024
Distance	[38.1 , 205.3]	0.95024
EqualFrequency	[-36 , 60.05]	0.95024
EqualWidth	[-1 , 94.6]	0.95024
Extended Chi2	[7.15 , 116.15]	0.95024
FFD	[-131.55 , 8.5]	0.95024
FUSINTER	[11.35 , 180.85]	0.95024
HDD	[-1,868.8 , -245.2]	0.95024
HellingerBD	[-13.35 , 75.55]	0.95024
Heter-Disc	[41.8 , 219.35]	0.95024
ID3	[-1,730.2 , -319.7]	0.95024
IDD	[-37.1 , 22.1]	0.95024
Khiops	[-4.2 , 96.75]	0.95024
MDLP	[29.35 , 195.55]	0.95024
Modified Chi2	[-16.7 , 47.8]	0.95024
MVD	[26 , 211.6]	0.95024
PKID	[-86.15 , 14.6]	0.95024
UCPD	[18.1 , 190.7]	0.95024
USD	[-485 , -143.8]	0.95024
Zeta	[15.25 , 139]	0.95024

Table 75: Confidence intervals for algorithm MODL ( $\alpha=0.95$ )

## 26 Detailed results for MVD

### 26.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	639.0	141.0	3.022E-4	0.000498
Ameva	699.0	121.0	4.098E-5	0.000082
Bayesian	795.0	25.0	1.6444E-9	0
CACC	647.5	172.5	0.003382999999999997	0.003927
CADD	460.5	359.5	$\geq 0.2$	0.491568
CAIM	601.0	219.0	0.009382	0.008729
Chi2	600.0	220.0	0.009782	0.01045
ChiMerge	561.0	219.0	0.016148	0.015581
ClusterAnalysis	816.0	4.0	1.2732E-11	0
DIBD	418.0	402.0	$\geq 0.2$	0.908733
Distance	330.0	490.0	$\geq 0.2$	1
EqualFrequency	818.5	1.5	1.8186E-11	0
EqualWidth	754.5	65.5	3.315E-7	0.000003
Extended Chi2	533.0	287.0	0.10004	0.096354
FFD	820.0	0.0	1.819E-12	0
FUSINTER	707.0	113.0	2.27E-5	0.00006
HDD	797.0	23.0	1.1642E-9	0
HellingerBD	766.0	54.0	9.226E-8	0.000002
Heter-Disc	128.5	656.5	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	769.0	51.0	6.46E-8	0.000001
Khiops	790.0	30.0	3.702E-9	0
MDLP	408.0	412.0	$\geq 0.2$	1
Modified Chi2	744.0	76.0	9.584E-7	0.000007
MODL	758.0	62.0	2.276E-7	0.000003
PKID	820.0	0.0	1.819E-12	0
UCPD	653.0	167.0	7.554E-4	0.000964
USD	820.0	0.0	1.819E-12	0
Zeta	613.0	207.0	0.005576	0.005168

Table 76: Results obtained by the Wilcoxon test for algorithm MVD

### 26.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-168.95 , -22.9]	0.90276
Ameva	[-29.5 , -5.55]	0.90276
Bayesian	[-748.2 , -220.85]	0.90276
CACC	[-69.05 , -12.9]	0.90276
CADD	[-14.4 , 2.7]	0.90276
CAIM	[-22.9 , -1.7]	0.90276
Chi2	[-24.35 , -5.35]	0.90276
ChiMerge	[-20.1 , -1.25]	0.90276
ClusterAnalysis	[-1,100.85 , -176.55]	0.90276
DIBD	[-12.6 , 2.65]	0.90276
Distance	[-1.95 , 6.25]	0.90276
EqualFrequency	[-124.65 , -43.5]	0.90276
EqualWidth	[-112.1 , -14.45]	0.90276
Extended Chi2	[-20.7 , 0.15]	0.90276
FFD	[-351.9 , -72.45]	0.90276
FUSINTER	[-35.35 , -12.55]	0.90276
HDD	[-1,925.1 , -388.55]	0.90276
HellingerBD	[-114.8 , -23.95]	0.90276
Heter-Disc	[4.75 , 14.6]	0.90276
ID3	[-1,669.25 , -433.35]	0.90276
IDD	[-315.3 , -68.55]	0.90276
Khiops	[-88.35 , -26.95]	0.90276
MDLP	[-7 , 4]	0.90276
Modified Chi2	[-101.2 , -34.7]	0.90276
MODL	[-198.1 , -29.55]	0.90276
PKID	[-304.1 , -91.3]	0.90276
UCPD	[-16.95 , -4.65]	0.90276
USD	[-718.65 , -234.8]	0.90276
Zeta	[-27.3 , -2.05]	0.90276

Table 77: Confidence intervals for algorithm MVD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-181.6 , -18.3]	0.95024
Ameva	[-31.35 , -4.4]	0.95024
Bayesian	[-1,001.6 , -214.55]	0.95024
CACC	[-89.7 , -10.45]	0.95024
CADD	[-15.9 , 3.85]	0.95024
CAIM	[-24.3 , -1.35]	0.95024
Chi2	[-26.95 , -3.4]	0.95024
ChiMerge	[-22.65 , -0.85]	0.95024
ClusterAnalysis	[-1,234.65 , -163.85]	0.95024
DIBD	[-19.45 , 3.4]	0.95024
Distance	[-3 , 7.05]	0.95024
EqualFrequency	[-139.95 , -40.6]	0.95024
EqualWidth	[-120 , -12.55]	0.95024
Extended Chi2	[-23.8 , 1.5]	0.95024
FFD	[-393.95 , -62.45]	0.95024
FUSINTER	[-37.8 , -10.95]	0.95024
HDD	[-2,451.6 , -334]	0.95024
HellingerBD	[-126.15 , -21.6]	0.95024
Heter-Disc	[3.75 , 16]	0.95024
ID3	[-2,104.5 , -388.1]	0.95024
IDD	[-405.75 , -61.55]	0.95024
Khiops	[-97.25 , -25.6]	0.95024
MDLP	[-9.1 , 4.85]	0.95024
Modified Chi2	[-131.5 , -31.25]	0.95024
MODL	[-211.6 , -26]	0.95024
PKID	[-326.95 , -85.5]	0.95024
UCPD	[-18.3 , -3.8]	0.95024
USD	[-969.05 , -222.45]	0.95024
Zeta	[-28.3 , -1.7]	0.95024

Table 78: Confidence intervals for algorithm MVD ( $\alpha=0.95$ )

## 27 Detailed results for PKID

### 27.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	111.0	709.0	$\geq 0.2$	1
Ameva	17.0	803.0	$\geq 0.2$	1
Bayesian	624.0	196.0	0.003358	0.003937
CACC	233.0	587.0	$\geq 0.2$	1
CADD	35.0	785.0	$\geq 0.2$	1
CAIM	0.0	820.0	$\geq 0.2$	1
Chi2	56.0	764.0	$\geq 0.2$	1
ChiMerge	0.0	820.0	$\geq 0.2$	1
ClusterAnalysis	644.0	176.0	0.0012308	0.001622
DIBD	0.0	820.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	195.0	625.0	$\geq 0.2$	1
EqualWidth	1.5	818.5	$\geq 0.2$	1
Extended Chi2	142.0	678.0	$\geq 0.2$	1
FFD	317.0	503.0	$\geq 0.2$	1
FUSINTER	0.0	820.0	$\geq 0.2$	1
HDD	639.0	141.0	3.022E-4	0.000498
HellingerBD	135.0	645.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	780.0	3.0	7.276E-11	0
IDD	346.0	474.0	$\geq 0.2$	1
Khiops	0.0	780.0	$\geq 0.2$	1
MDLP	0.0	820.0	$\geq 0.2$	1
Modified Chi2	236.0	584.0	$\geq 0.2$	1
MODL	283.0	537.0	$\geq 0.2$	1
MVD	0.0	820.0	$\geq 0.2$	1
UCPD	4.0	816.0	$\geq 0.2$	1
USD	656.0	164.0	6.384E-4	0.000922
Zeta	17.0	803.0	$\geq 0.2$	1

Table 79: Results obtained by the Wilcoxon test for algorithm PKID

### 27.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[38.65 , 82.6]	0.90276
Ameva	[82.85 , 217.35]	0.90276
Bayesian	[-644.6 , -33.7]	0.90276
CACC	[21.35 , 143.7]	0.90276
CADD	[83.1 , 189.75]	0.90276
CAIM	[86.15 , 223.4]	0.90276
Chi2	[80.2 , 292.3]	0.90276
ChiMerge	[86.85 , 225.95]	0.90276
ClusterAnalysis	[-797.6 , -55.2]	0.90276
DIBD	[93.05 , 245.05]	0.90276
Distance	[100.45 , 316.5]	0.90276
EqualFrequency	[28.3 , 83.5]	0.90276
EqualWidth	[65.9 , 124.35]	0.90276
Extended Chi2	[53.5 , 189.2]	0.90276
FFD	[-8.5 , 22.85]	0.90276
FUSINTER	[80.7 , 244.9]	0.90276
HDD	[-1,829.45 , -168.4]	0.90276
HellingerBD	[40.75 , 95.5]	0.90276
Heter-Disc	[108 , 331.5]	0.90276
ID3	[-1,361.3 , -287.45]	0.90276
IDD	[-35.4 , 34.65]	0.90276
Khiops	[69.05 , 193.7]	0.90276
MDLP	[98.8 , 302.65]	0.90276
Modified Chi2	[11.6 , 84.2]	0.90276
MODL	[0.85 , 68.7]	0.90276
MVD	[91.3 , 304.1]	0.90276
UCPD	[88.35 , 285.3]	0.90276
USD	[-576.9 , -58.6]	0.90276
Zeta	[84 , 219.35]	0.90276

Table 80: Confidence intervals for algorithm PKID ( $\alpha=0.90$ )



$\alpha=0.95$	Confidence interval	Exact confidence
1R	[36.8 , 91.6]	0.95024
Ameva	[76.95 , 268]	0.95024
Bayesian	[-828.45 , -19.65]	0.95024
CACC	[13.55 , 182.35]	0.95024
CADD	[75.25 , 206.8]	0.95024
CAIM	[80.95 , 279.55]	0.95024
Chi2	[73.1 , 323.85]	0.95024
ChiMerge	[82.1 , 287]	0.95024
ClusterAnalysis	[-921.6 , -37.05]	0.95024
DIBD	[88.25 , 292.4]	0.95024
Distance	[94.35 , 334.9]	0.95024
EqualFrequency	[24 , 89.5]	0.95024
EqualWidth	[62.05 , 135]	0.95024
Extended Chi2	[42.15 , 212.8]	0.95024
FFD	[-74.45 , 24.45]	0.95024
FUSINTER	[74.85 , 271.25]	0.95024
HDD	[-2,256.55 , -133.5]	0.95024
HellingerBD	[37.85 , 104.05]	0.95024
Heter-Disc	[99.65 , 354.5]	0.95024
ID3	[-1,574.1 , -274.5]	0.95024
IDD	[-110.4 , 36.55]	0.95024
Khiops	[64.65 , 208.75]	0.95024
MDLP	[92.7 , 317.35]	0.95024
Modified Chi2	[6.4 , 99.65]	0.95024
MODL	[-14.6 , 86.15]	0.95024
MVD	[85.5 , 326.95]	0.95024
UCPD	[82.75 , 319.5]	0.95024
USD	[-738.15 , -40.5]	0.95024
Zeta	[79.4 , 270]	0.95024

Table 81: Confidence intervals for algorithm PKID ( $\alpha=0.95$ )

## 28 Detailed results for UCPD

### 28.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	625.0	195.0	0.003202	0.003772
Ameva	467.0	353.0	$\geq 0.2$	0.439597
Bayesian	765.0	55.0	1.0366E-7	0.000002
CACC	565.0	255.0	0.03684	0.036607
CADD	277.5	542.5	$\geq 0.2$	1
CAIM	432.0	388.0	$\geq 0.2$	0.761937
Chi2	413.0	407.0	$\geq 0.2$	0.962478
ChiMerge	403.5	416.5	$\geq 0.2$	1
ClusterAnalysis	798.0	22.0	9.75E-10	0
DIBD	282.5	537.5	$\geq 0.2$	1
Distance	142.0	678.0	$\geq 0.2$	1
EqualFrequency	749.0	31.0	8.64E-9	0.000001
EqualWidth	645.0	175.0	0.0011672	0.001549
Extended Chi2	415.0	405.0	$\geq 0.2$	0.941068
FFD	809.0	11.0	1.0004E-10	0
FUSINTER	632.0	188.0	0.002276	0.002648
HDD	782.5	37.5	1.1223E-8	0.000001
HellingerBD	695.0	125.0	5.45E-5	0.000124
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	819.0	1.0	3.638E-12	0
IDD	732.0	88.0	2.924E-6	0.000015
Khiops	760.0	60.0	1.8268E-7	0.000002
MDLP	222.0	558.0	$\geq 0.2$	1
Modified Chi2	680.0	140.0	1.4978E-4	0.000271
MODL	691.5	128.5	6.958E-5	0.000147
MVD	167.0	653.0	$\geq 0.2$	1
PKID	816.0	4.0	1.2732E-11	0
USD	812.0	8.0	4.548E-11	0
Zeta	448.0	372.0	$\geq 0.2$	0.604207

Table 82: Results obtained by the Wilcoxon test for algorithm UCPD

### 28.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-152.4 , -14.5]	0.90276
Ameva	[-24.7 , 3.25]	0.90276
Bayesian	[-746.75 , -213.05]	0.90276
CACC	[-64.85 , -1.95]	0.90276
CADD	[1 , 13.55]	0.90276
CAIM	[-15.1 , 5.45]	0.90276
Chi2	[-11.45 , 8.1]	0.90276
ChiMerge	[-13.45 , 5.75]	0.90276
ClusterAnalysis	[-1,113.05 , -163.05]	0.90276
DIBD	[0.85 , 8.15]	0.90276
Distance	[6.3 , 13.25]	0.90276
EqualFrequency	[-115.55 , -33.95]	0.90276
EqualWidth	[-101.25 , -7.75]	0.90276
Extended Chi2	[-13.8 , 9.9]	0.90276
FFD	[-345.45 , -64.95]	0.90276
FUSINTER	[-19.35 , -4.4]	0.90276
HDD	[-1,921.75 , -377.5]	0.90276
HellingerBD	[-105.2 , -16.5]	0.90276
Heter-Disc	[15.75 , 25]	0.90276
ID3	[-1,645 , -417.25]	0.90276
IDD	[-320.35 , -62.9]	0.90276
Khiops	[-81.7 , -20.15]	0.90276
MDLP	[3.1 , 10.5]	0.90276
Modified Chi2	[-82.55 , -21.15]	0.90276
MODL	[-185.4 , -24.1]	0.90276
MVD	[4.65 , 16.95]	0.90276
PKID	[-285.3 , -88.35]	0.90276
USD	[-704.9 , -225.7]	0.90276
Zeta	[-22.85 , 5]	0.90276

Table 83: Confidence intervals for algorithm UCPD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-174.45 , -10.1]	0.95024
Ameva	[-29 , 4]	0.95024
Bayesian	[-1,014.35 , -194.1]	0.95024
CACC	[-80.7 , -0.8]	0.95024
CADD	[-1.45 , 14.35]	0.95024
CAIM	[-18.4 , 6.2]	0.95024
Chi2	[-12.7 , 10.1]	0.95024
ChiMerge	[-16.8 , 6.65]	0.95024
ClusterAnalysis	[-1,230.35 , -153.25]	0.95024
DIBD	[-5.6 , 8.75]	0.95024
Distance	[5.7 , 14.45]	0.95024
EqualFrequency	[-128 , -31.15]	0.95024
EqualWidth	[-113.1 , -6.05]	0.95024
Extended Chi2	[-16.65 , 11.35]	0.95024
FFD	[-366.35 , -56.9]	0.95024
FUSINTER	[-22.15 , -3.55]	0.95024
HDD	[-2,439.7 , -312.85]	0.95024
HellingerBD	[-120.55 , -14.35]	0.95024
Heter-Disc	[15.35 , 28.75]	0.95024
ID3	[-2,072.45 , -381.45]	0.95024
IDD	[-399.05 , -54.5]	0.95024
Khiops	[-88.9 , -18.1]	0.95024
MDLP	[1.9 , 11.3]	0.95024
Modified Chi2	[-104.05 , -17.7]	0.95024
MODL	[-190.7 , -18.1]	0.95024
MVD	[3.8 , 18.3]	0.95024
PKID	[-319.5 , -82.75]	0.95024
USD	[-965.1 , -210.45]	0.95024
Zeta	[-27.4 , 5.7]	0.95024

Table 84: Confidence intervals for algorithm UCPD ( $\alpha=0.95$ )

## 29 Detailed results for USD

### 29.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	0.0	820.0	$\geq 0.2$	1
Ameva	14.0	766.0	$\geq 0.2$	1
Bayesian	366.0	454.0	$\geq 0.2$	1
CACC	0.0	780.0	$\geq 0.2$	1
CADD	12.0	808.0	$\geq 0.2$	1
CAIM	3.0	777.0	$\geq 0.2$	1
Chi2	37.0	783.0	$\geq 0.2$	1
ChiMerge	0.0	780.0	$\geq 0.2$	1
ClusterAnalysis	416.0	364.0	$\geq 0.2$	0.711526
DIBD	0.0	820.0	$\geq 0.2$	1
Distance	0.0	820.0	$\geq 0.2$	1
EqualFrequency	133.0	687.0	$\geq 0.2$	1
EqualWidth	67.0	753.0	$\geq 0.2$	1
Extended Chi2	74.0	746.0	$\geq 0.2$	1
FFD	155.0	665.0	$\geq 0.2$	1
FUSINTER	1.0	819.0	$\geq 0.2$	1
HDD	677.0	143.0	1.8148E-4	0.000324
HellingerBD	110.0	710.0	$\geq 0.2$	1
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	820.0	0.0	1.819E-12	0
IDD	0.0	820.0	$\geq 0.2$	1
Khiops	59.0	761.0	$\geq 0.2$	1
MDLP	0.0	780.0	$\geq 0.2$	1
Modified Chi2	116.5	703.5	$\geq 0.2$	1
MODL	1.0	819.0	$\geq 0.2$	1
MVD	0.0	820.0	$\geq 0.2$	1
PKID	164.0	656.0	$\geq 0.2$	1
UCPD	8.0	812.0	$\geq 0.2$	1
Zeta	14.0	766.0	$\geq 0.2$	1

Table 85: Results obtained by the Wilcoxon test for algorithm USD

### 29.2 Confidence intervals for Median of differences

$\alpha=0.90$	Confidence interval	Exact confidence
1R	[204.8 , 563]	0.90276
Ameva	[222.25 , 714.55]	0.90276
Bayesian	[-23.1 , 12.85]	0.90276
CACC	[175.1 , 696.05]	0.90276
CADD	[216.65 , 665.25]	0.90276
CAIM	[227.7 , 722.7]	0.90276
Chi2	[234.45 , 636.65]	0.90276
ChiMerge	[228.75 , 724.9]	0.90276
ClusterAnalysis	[-82.25 , 55.2]	0.90276
DIBD	[232.55 , 725.65]	0.90276
Distance	[244.35 , 733.15]	0.90276
EqualFrequency	[138 , 581.55]	0.90276
EqualWidth	[176.65 , 616.5]	0.90276
Extended Chi2	[193.95 , 512.65]	0.90276
FFD	[67.2 , 489.3]	0.90276
FUSINTER	[211.5 , 697.15]	0.90276
HDD	[-728.65 , -111.15]	0.90276
HellingerBD	[157.75 , 608.9]	0.90276
Heter-Disc	[251.35 , 742.15]	0.90276
ID3	[-660.8 , -169.95]	0.90276
IDD	[161.1 , 450.05]	0.90276
Khiops	[175.15 , 646.4]	0.90276
MDLP	[225.55 , 710.35]	0.90276
Modified Chi2	[149.1 , 360.8]	0.90276
MODL	[156.4 , 444.55]	0.90276
MVD	[234.8 , 718.65]	0.90276
PKID	[58.6 , 576.9]	0.90276
UCPD	[225.7 , 704.9]	0.90276
Zeta	[226.8 , 715.15]	0.90276

Table 86: Confidence intervals for algorithm USD ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[193.75 , 778.9]	0.95024
Ameva	[212.4 , 937.4]	0.95024
Bayesian	[-31.1 , 14.85]	0.95024
CACC	[149.6 , 778.9]	0.95024
CADD	[199.6 , 875.95]	0.95024
CAIM	[214.85 , 937.9]	0.95024
Chi2	[210.2 , 884.55]	0.95024
ChiMerge	[215.65 , 937.95]	0.95024
ClusterAnalysis	[-98.75 , 80.2]	0.95024
DIBD	[218.8 , 929.05]	0.95024
Distance	[223.5 , 962.3]	0.95024
EqualFrequency	[99.6 , 637.2]	0.95024
EqualWidth	[128.15 , 809.3]	0.95024
Extended Chi2	[160.85 , 578.1]	0.95024
FFD	[52.65 , 618.25]	0.95024
FUSINTER	[195.55 , 932.05]	0.95024
HDD	[-806.2 , -92.45]	0.95024
HellingerBD	[115.6 , 662.85]	0.95024
Heter-Disc	[228 , 979.5]	0.95024
ID3	[-720.4 , -157.1]	0.95024
IDD	[151.95 , 575.65]	0.95024
Khiops	[136.4 , 865.6]	0.95024
MDLP	[215.6 , 936.55]	0.95024
Modified Chi2	[100.75 , 425.15]	0.95024
MODL	[143.8 , 485]	0.95024
MVD	[222.45 , 969.05]	0.95024
PKID	[40.5 , 738.15]	0.95024
UCPD	[210.45 , 965.1]	0.95024
Zeta	[213.6 , 937.95]	0.95024

Table 87: Confidence intervals for algorithm USD ( $\alpha=0.95$ )

## 30 Detailed results for Zeta

### 30.1 Results

VS	$R^+$	$R^-$	Exact P-value	Asymptotic P-value
1R	497.0	283.0	0.13846	0.132895
Ameva	720.5	76.5	0.06278	0.058368
Bayesian	779.0	41.0	1.811E-8	0.000001
CACC	513.5	306.5	$\geq 0.2$	0.348709
CADD	209.5	610.5	$\geq 0.2$	1
CAIM	309.5	499.5	$\geq 0.2$	1
Chi2	336.5	483.5	$\geq 0.2$	1
ChiMerge	85.5	734.5	$\geq 0.2$	1
ClusterAnalysis	780.0	0.0	3.638E-12	0
DIBD	207.0	573.0	$\geq 0.2$	1
Distance	46.0	734.0	$\geq 0.2$	1
EqualFrequency	820.0	0.0	1.819E-12	0
EqualWidth	630.0	190.0	$\geq 0.2$	0.755835
Extended Chi2	353.0	467.0	$\geq 0.2$	1
FFD	759.0	61.0	2.04E-7	0.000003
FUSINTER	507.0	313.0	0.19686	0.190018
HDD	759.5	25.5	5.7419999999999994E-8	0.000002
HellingerBD	695.5	124.5	0.59937	0.189466
Heter-Disc	0.0	820.0	$\geq 0.2$	1
ID3	815.0	5.0	1.819E-11	0
IDD	725.0	95.0	5.372E-6	0.00002
Khiops	635.0	185.0	0.0019596	0.002437
MDLP	209.5	570.5	$\geq 0.2$	1
Modified Chi2	635.0	185.0	0.0019596	0.002437
MODL	665.5	154.5	3.681E-4	0.000567
MVD	207.0	613.0	$\geq 0.2$	1
PKID	803.0	17.0	3.766E-10	0
UCPD	372.0	448.0	$\geq 0.2$	1
USD	766.0	14.0	4.002E-10	0

Table 88: Results obtained by the Wilcoxon test for algorithm Zeta

### 30.2 Confidence intervals for Median of differences



$\alpha=0.90$	Confidence interval	Exact confidence
1R	[-75.7 , 1.85]	0.90276
Ameva	[-1.9 , -0.5]	0.90276
Bayesian	[-746.85 , -214.8]	0.90276
CACC	[-53.3 , 1]	0.90276
CADD	[3.8 , 21.7]	0.90276
CAIM	[0 , 1]	0.90276
Chi2	[-4.25 , 20.8]	0.90276
ChiMerge	[0.25 , 4.05]	0.90276
ClusterAnalysis	[-1,100.55 , -169.6]	0.90276
DIBD	[1.1 , 9.15]	0.90276
Distance	[7.45 , 29.55]	0.90276
EqualFrequency	[-63 , -32]	0.90276
EqualWidth	[-28.9 , -4]	0.90276
Extended Chi2	[-4.15 , 17.25]	0.90276
FFD	[-205.2 , -51.05]	0.90276
FUSINTER	[-19.55 , 3.7]	0.90276
HDD	[-1,922.6 , -354]	0.90276
HellingerBD	[-37 , -12]	0.90276
Heter-Disc	[13.5 , 46.15]	0.90276
ID3	[-1,635.05 , -423.85]	0.90276
IDD	[-313.45 , -49.65]	0.90276
Khiops	[-64.95 , -10.95]	0.90276
MDLP	[1.95 , 20.3]	0.90276
Modified Chi2	[-62.15 , -14.7]	0.90276
MODL	[-124.2 , -17.8]	0.90276
MVD	[2.05 , 27.3]	0.90276
PKID	[-219.35 , -84]	0.90276
UCPD	[-5 , 22.85]	0.90276
USD	[-715.15 , -226.8]	0.90276

Table 89: Confidence intervals for algorithm Zeta ( $\alpha=0.90$ )

$\alpha=0.95$	Confidence interval	Exact confidence
1R	[-87.6 , 3.8]	0.95024
Ameva	[-2 , -0.2]	0.95024
Bayesian	[-983.4 , -183.65]	0.95024
CACC	[-63.8 , 2.45]	0.95024
CADD	[2.95 , 25.75]	0.95024
CAIM	[0 , 1]	0.95024
Chi2	[-6.35 , 23.9]	0.95024
ChiMerge	[0.15 , 4.55]	0.95024
ClusterAnalysis	[-1,206.65 , -158.35]	0.95024
DIBD	[0.7 , 10.35]	0.95024
Distance	[6.1 , 33.6]	0.95024
EqualFrequency	[-69.5 , -29]	0.95024
EqualWidth	[-38.85 , -2]	0.95024
Extended Chi2	[-7.45 , 19.35]	0.95024
FFD	[-253.9 , -46.75]	0.95024
FUSINTER	[-21.4 , 6.3]	0.95024
HDD	[-2,448 , -304.55]	0.95024
HellingerBD	[-45 , -8]	0.95024
Heter-Disc	[12.2 , 49.3]	0.95024
ID3	[-2,102.15 , -386.45]	0.95024
IDD	[-366.75 , -43.3]	0.95024
Khiops	[-70.9 , -9]	0.95024
MDLP	[1.25 , 21.75]	0.95024
Modified Chi2	[-69.7 , -11.8]	0.95024
MODL	[-139 , -15.25]	0.95024
MVD	[1.7 , 28.3]	0.95024
PKID	[-270 , -79.4]	0.95024
UCPD	[-5.7 , 27.4]	0.95024
USD	[-937.95 , -213.6]	0.95024

Table 90: Confidence intervals for algorithm Zeta ( $\alpha=0.95$ )