

AVERAGES

n	k	MSTH – AVG	MSH – AVG_OF_AVG	MSH – AVG_OF_BEST
10	5	53.0082	51.3555	48.5862
10	10	35.8842	35.7909	34.1893
10	20	21.0127	23.4636	21.3489
10	50	9.57005	12.4745	11.4073
20	5	59.019	56.79	54.1618
20	10	46.0345	44.559	41.6416
20	20	30.8619	32.5063	30.1275
20	50	15.1708	18.6253	17.6046
30	5	70.6178	67.14	64.795
30	10	56.3672	52.2747	49.7522
30	20	39.4987	40.9965	38.5553
30	50	21.2593	24.969	23.6524
40	5	72.9082	68.3569	66.7629
40	10	62.1879	58.6305	55.9618
40	20	47.1165	45.9772	44.0621
40	50	26.7904	30.4197	28.5646
50	5	69.7402	66.4511	64.4328
50	10	59.1253	56.4956	54.1451
50	20	46.4721	45.5517	43.7386
50	50	27.8198	30.8321	29.7183
60	5	73.9708	72.2036	70.6325
60	10	65.4588	60.9733	58.8145
60	20	51.354	50.4228	48.9183
60	50	32.588	34.7506	33.4462
70	5	71.5596	70.14	68.2887
70	10	64.1552	60.3071	58.7269
70	20	52.0018	49.9233	48.0547
70	50	33.4958	35.7403	34.173
80	5	72.4238	70.3973	68.7849
80	10	64.4774	61.2697	59.6844
80	20	54.0285	51.7679	49.9399
80	50	35.8403	37.7151	36.2281
90	5	74.1307	70.9088	69.7862
90	10	65.8845	62.6668	60.6847
90	20	55.6611	53.171	51.5442
90	50	38.5633	40.2178	38.5043
100	5	74.6191	71.544	69.3738
100	10	65.6902	63.337	61.9613
100	20	58.1475	54.8559	53.5391
100	50	41.1073	41.5346	40.4865
250	5	79.703	78.923	77.8923
250	10	74.3734	72.4775	71.3358
250	20	67.9529	65.5815	63.9164
250	50	56.4287	54.4458	53.0664
500	5	84.5939	84.2083	84.0575
500	10	79.4964	78.088	77.155
500	20	73.5034	71.5666	70.6514
500	50	63.9228	62.214	61.3102
1000	5	86.2811	86.0518	85.5407
1000	10	80.5143	80.0978	79.6031
1000	20	76.3517	75.4447	74.8275
1000	50	69.4102	68.4155	67.847

ALL_INSTANCES

n = 10, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	75.3108	66.0244	63.5867
2	50	53.6215	51.675
3	50	49.9859	49.9859
4	48.1153	48.1933	45.1913
5	64.2332	61.0662	58.951
6	54.4509	48.8337	45.044
7	53.2454	47.6586	46.0787
8	47.9618	47.9618	47.9618
9	50	50.2563	49.0653
10	50	51.0218	43.8003
11	50	50.9294	43.208
12	50	52.9191	50.0059
13	50	44.721	41.985
14	51.8052	49.2995	46.8164
15	50	47.8408	45.4379
AVERAGE	53.0082	51.3555	48.5862

n = 10, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	47.5404	44.6332	42.4858
2	30.2656	32.2717	30.8887
3	38.8057	39.0839	39.0839
4	32.4616	34.0926	31.2356
5	35.2732	36.3876	35.3759
6	39.0955	38.962	37.0882
7	30.903	31.3666	30.2025
8	30.6293	31.6592	30.6293
9	43.5475	43.3872	39.2541
10	33.3333	32.296	31.5131
11	40.1883	37.1339	35.6581
12	33.6459	36.1572	33.7249
13	32.2177	30.632	28.5172
14	33.3333	31.5875	30.1605
15	37.0223	37.2127	37.0223
AVERAGE	35.8842	35.7909	34.1893

n = 10, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	26.7026	30.8742	27.8615
2	18.9304	21.0971	18.9305
3	21.6176	23.3051	21.2854
4	19.565	23.5452	21.2226
5	22.2565	23.505	22.4749
6	22.8197	24.9456	23.2217
7	18.1127	20.0086	18.5129
8	18.3601	20.0598	19.072
9	23.5195	25.8324	23.5288
10	20	22.2345	19.952
11	21.5992	24.4865	22.4864
12	20	23.4644	21.518
13	19.4501	19.9496	18.2332
14	21.7912	22.3938	19.5743
15	20.4666	26.2527	22.3597
AVERAGE	21.0127	23.4636	21.3489

n = 10, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	12.5518	16.2658	14.8424
2	8.33393	11.917	10.9766
3	9.99718	12.4409	11.8861
4	8.33333	11.075	10.4616
5	10	13.0618	11.5326
6	10.1604	12.8557	12.1763
7	8.33333	10.2102	9.22697
8	7.99363	10.2675	9.47472
9	10.8869	13.7854	12.8316
10	8.95273	12.2199	10.9279
11	10.3846	13.3106	12.3437
12	9.75402	13.2248	11.9898
13	8.46997	10.9815	9.84031
14	9.39885	12.0952	11.1429
15	10	13.406	11.4552
AVERAGE	9.57005	12.4745	11.4073

n = 20, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	62.0468	57.3906	57.0885
2	38.0611	38.8777	37.9484
3	61.0066	58.449	54.1378
4	72.124	66.1595	57.0832
5	55.204	54.344	52.2285
6	65.6851	60.1229	59.6997
7	50	49.5833	49.4783
8	69.2624	62.3004	57.5028
9	56.801	57.6063	54.7973
10	54.2824	55.6067	54.2824
11	44.4292	46.4106	43.4539
12	53.5582	50.4109	48.9662
13	76.2295	75.6887	73.5252
14	59.4811	56.2837	52.6184
15	67.1128	62.615	59.6165
AVERAGE	59.019	56.79	54.1618

n = 20, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	56.3548	48.4609	46.0793
2	32.9425	33.4967	31.1037
3	44.3078	47.2441	44.3078
4	46.2323	47.3811	46.2735
5	45.859	42.2838	38.2299
6	49.6026	48.4231	45.8148
7	42.5458	42.5458	42.5458
8	52.4996	48.6725	46.1515
9	47.8324	45.9555	44.7961
10	36.4986	42.4855	36.7791
11	33.3333	37.4573	33.6784
12	46.4459	37.4129	33.391
13	63.2103	57.657	52.8198
14	44.0977	40.9573	37.5826
15	48.7549	47.9522	45.0704
AVERAGE	46.0345	44.559	41.6416

n = 20, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	35.6111	36.5812	34.6856
2	23.8707	25.0924	23.6044
3	29.7634	32.9514	29.7646
4	33.3333	35.5297	32.8029
5	29.3627	32.3207	29.3627
6	33.3333	35.8098	33.7307
7	28.2196	31.0529	28.2196
8	36.7145	35.599	35.2747
9	31.8883	34.0298	32.0007
10	27.0092	28.2666	26.0201
11	22.2146	23.8628	21.3824
12	26.7791	26.9414	25.4213
13	38.1148	44.2265	38.1874
14	33.3333	30.7338	28.0758
15	33.3801	34.5972	33.3801
AVERAGE	30.8619	32.5063	30.1275

n = 20, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	18.4232	21.2347	19.978
2	10.9847	12.8248	12.421
3	15.1132	17.2924	16.8929
4	16.4015	19.308	17.803
5	15.2501	18.0684	16.5402
6	16.1194	20.2318	19.3886
7	14.1819	17.7141	17.3029
8	17.9261	22.2829	20.0978
9	14.932	18.9414	18.9414
10	13.5706	16.7849	15.0195
11	11.2261	14.7769	14.2743
12	13.3895	16.2139	14.9302
13	18.4828	23.3075	22.2163
14	14.8703	18.559	17.9008
15	16.69	21.8384	20.362
AVERAGE	15.1708	18.6253	17.6046

ALL_INSTANCES

n = 30, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	64.5375	62.3081	61.8379
2	58.2742	58.7091	58.2742
3	57.917	56.9609	52.7757
4	61.9185	55.0888	54.8261
5	67.2062	64.2953	62.1235
6	84.6696	79.7004	69.9504
7	72.6846	71.4116	69.2114
8	78.7662	73.118	73.118
9	73.8462	70.1156	64.5198
10	63.8326	64.1123	63.8326
11	64.86	64.8545	64.8323
12	78.9984	71.7471	70.7901
13	78.8769	76.5205	73.671
14	85.8557	79.4666	77.7908
15	67.0231	58.6911	54.3709
AVERAGE	70.6178	67.14	64.795

n = 30, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	52.5321	51.9329	51.0339
2	40.9888	37.6655	36.2721
3	50	47.5084	44.4959
4	50	43.5508	41.7934
5	51.3672	50.8517	48.5016
6	65.6773	59.6041	55.5708
7	66.0071	53.0803	49.2562
8	59.2656	56.6555	53.3446
9	55.1804	56.6472	55.1804
10	50	47.0418	47.0418
11	63.7061	52.5851	51.3805
12	66.9803	61.6066	61.2104
13	50	55.4516	51.0064
14	76.5929	64.0801	57.142
15	47.2101	45.8594	43.0523
AVERAGE	56.3672	52.2747	49.7522

n = 30, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	35.7864	37.2637	36.5177
2	32.0942	32.8961	32.0211
3	33.4154	36.2827	35.1324
4	36.3641	37.0066	35.2823
5	39.8561	40.9228	39.156
6	44.3919	44.7807	43.2474
7	44.6006	43.9541	41.4027
8	41.4601	43.2033	38.7284
9	40.6406	39.4509	38.7998
10	39.3559	39.8015	37.4929
11	42.7086	43.9839	40.5772
12	42.2198	45.1706	42.2271
13	39.4385	43.307	38.6276
14	46.8144	49.7557	46.8144
15	33.3333	37.1677	32.3022
AVERAGE	39.4987	40.9965	38.5553

n = 30, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	21.3504	24.873	23.2925
2	17.4705	21.2852	21.2852
3	18.8892	21.8411	21.0096
4	19.3861	21.925	21.2197
5	21.2008	25.0927	23.3334
6	25	29.1046	27.9727
7	23.0705	27.0732	26.3074
8	22.259	27.9019	26.8885
9	22.4084	26.0954	23.1315
10	20.2042	22.6943	20.5611
11	21.9384	27.1366	25.001
12	23.28	27.2809	25.5672
13	19.3751	23.5217	22.489
14	25.1689	28.1607	26.7261
15	17.8884	20.5481	20.0017
AVERAGE	21.2593	24.969	23.6524

n = 40, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	89.2539	78.1151	77.8021
2	74.349	67.9643	67.4429
3	80.9725	80.8355	80.8012
4	63.2217	63.5791	60.1855
5	70.9133	67.9145	65.6282
6	67.461	61.4366	61.4366
7	73.4981	75.2003	73.4981
8	56.1958	55.2937	51.6851
9	86.4694	80.9529	79.9054
10	88.7722	82.2135	81.4341
11	79.9253	76.7448	70.8331
12	50	42.3218	39.7452
13	67.8003	65.3467	64.1872
14	55.9897	51.5113	51.4166
15	88.8011	75.9227	75.4416
AVERAGE	72.9082	68.3569	66.7629

n = 40, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	74.175	69.899	68.0008
2	64.7245	62.8648	58.5335
3	75.8428	71.387	67.166
4	53.3506	54.8802	51.5719
5	64.5673	56.4119	53.7456
6	58.7543	54.8713	52.2797
7	65.755	63.76	62.4068
8	48.5868	44.6487	42.9686
9	77.6695	73.239	70.2289
10	80.2561	71.4416	66.3692
11	65.2615	62.0923	61.3564
12	31.922	34.9645	31.573
13	53.5286	49.0271	45.3487
14	50.7957	48.329	47.9757
15	67.6287	61.641	59.9014
AVERAGE	62.1879	58.6305	55.9618

n = 40, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	53.5072	54.0552	53.5072
2	49.8862	49.3422	47.029
3	58.2588	57.4347	55.5495
4	40.9053	41.2199	40.9053
5	49.5867	45.1267	41.9546
6	45.6414	43.8066	42.2077
7	47.1244	48.5938	47.0315
8	34.4426	32.77	31.868
9	57.6447	53.0683	52.5668
10	61.1876	57.0289	51.6569
11	46.4059	48.0808	44.4924
12	26.1858	26.8361	25.3348
13	41.5723	41.6966	39.6134
14	40.7033	38.996	36.8793
15	53.6949	51.6013	50.3349
AVERAGE	47.1165	45.9772	44.0621

n = 40, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	31.6126	35.9917	32.7396
2	27.8874	32.0276	30.9511
3	32.0729	36.2309	33.468
4	21.4922	27.4788	25.4442
5	27.5736	29.4398	27.0628
6	25	28.373	26.0784
7	28.5114	32.117	30.8685
8	21.0372	24.0749	24.0749
9	35.1145	37.2715	33.1447
10	34.1224	39.9954	37.3737
11	26.8128	30.4575	29.7972
12	15.1776	16.5524	16.0009
13	23.9908	27.9395	26.0686
14	21.3321	25.6522	23.8645
15	30.1183	32.6927	31.5313
AVERAGE	26.7904	30.4197	28.5646

ALL_INSTANCES

n = 50, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	73.5419	69.6393	67.0376
2	86.4746	82.4027	80.8994
3	74.2629	70.5783	68.7351
4	62.2759	61.4616	60.528
5	67.8709	66.8393	66.6155
6	73.7613	68.6044	64.8546
7	50	47.3125	42.8995
8	61.92	61.517	59.9048
9	58.633	55.8437	55.2101
10	61.3546	63.0795	61.3546
11	68.1617	66.2743	65.8024
12	82.736	73.0928	72.2513
13	56.8758	55.1331	54.0821
14	87.0924	80.4556	76.3042
15	81.1417	74.5326	70.0128
AVERAGE	69.7402	66.4511	64.4328

n = 50, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	47.0533	46.9074	44.0775
2	52.158	51.2783	50.6698
3	51.7446	47.9694	47.1957
4	45.7618	43.7285	43.0572
5	49.4356	48.8788	48.4316
6	47.0923	44.3349	41.7515
7	33.3333	32.2284	29.407
8	44.6274	45.7287	43.4045
9	43.5145	38.6127	35.9812
10	43.0264	41.3394	39.4881
11	46.2251	48.6188	45.2063
12	51.3984	53.3391	52.5411
13	38.1732	35.4949	34.7711
14	56.7614	57.4182	54.6468
15	46.7759	47.3986	45.4501
AVERAGE	46.4721	45.5517	43.7386

n = 60, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	71.9329	72.5861	70.5437
2	47.7862	47.9148	47.3519
3	87.4237	83.5583	82.5557
4	81.6841	74.0067	72.5887
5	78.8846	77.0765	74.3644
6	65.3184	66.4908	65.3184
7	79.3675	78.939	78.6842
8	61.4747	56.3293	56.3286
9	75.932	72.5069	70.7956
10	76.9437	76.7051	74.9326
11	62.1479	62.7222	62.1479
12	78.4465	75.3049	75.3049
13	85.3254	83.3918	76.8694
14	76.2675	76.1811	75.8356
15	80.6275	79.3402	75.8663
AVERAGE	73.9708	72.2036	70.6325

n = 60, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	53.3906	50.267	47.1508
2	31.8768	31.9318	31.1505
3	67.7757	64.7472	63.3188
4	44.2374	44.9907	44.2374
5	56.0533	55.9622	53.0556
6	46.8939	45.4482	42.358
7	60.1202	55.7695	53.5685
8	44.2808	43.1451	43.1451
9	51.7361	52.398	51.887
10	56.1998	55.1212	52.8208
11	49.2182	46.3298	46.3298
12	53.5835	54.1691	53.0511
13	51.6129	52.3265	49.4705
14	45.5674	46.178	45.0062
15	57.7631	57.558	57.2248
AVERAGE	51.354	50.4228	48.9183

n = 50, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	55.45	57.2344	55.45
2	79.1593	65.8837	59.5861
3	63.2901	61.5156	57.9201
4	53.1256	53.6946	53.1256
5	60.7047	55.8954	55.3782
6	61.5508	55.3974	54.5795
7	39.9298	40.6372	39.8266
8	51.7172	52.6162	51.9015
9	52.6937	52.302	51.6692
10	53.5909	53.5237	51.8787
11	60.1225	53.8678	52.6625
12	71.328	66.4617	62.5687
13	51.1226	46.7572	41.6356
14	76.0746	72.9769	68.662
15	57.0204	58.6702	55.3325
AVERAGE	59.1253	56.4956	54.1451

n = 50, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	26.8972	31.9115	30.5248
2	36.2317	38.0504	37.2752
3	30.343	32.0078	31.2251
4	27.6133	30.8493	29.8446
5	27.9062	31.5256	29.4784
6	27.4245	31.5215	29.2573
7	19.5334	21.5128	20.0129
8	25	28.5349	27.706
9	25	27.3287	26.3789
10	25.5222	27.574	26.7198
11	27.448	29.1977	28.693
12	31.595	34.8129	34.5378
13	24.0366	27.2058	25.1474
14	33.3333	37.2625	37.2348
15	29.4125	33.1856	31.7384
AVERAGE	27.8198	30.8321	29.7183

n = 60, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	64.5812	61.2715	60.6412
2	39.0799	39.035	39.005
3	80.7493	73.7256	71.5516
4	72.5887	67.7386	60.4628
5	65.556	63.6334	62.8501
6	59.6252	54.9283	53.487
7	70.6836	65.8971	62.7061
8	52.6527	51.837	50.2212
9	67.1124	65.1135	63.2818
10	72.098	68.8638	65.1974
11	55.2271	54.7673	53.3236
12	69.5559	63.6974	62.1303
13	75.5764	59.7298	59.0761
14	66.8706	58.4576	56.2149
15	69.926	65.9034	62.0686
AVERAGE	65.4588	60.9733	58.8145

n = 60, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	32.2906	35.1672	32.572
2	19.5399	21.3116	20.5017
3	40.3746	42.3448	41.0656
4	29.5497	32.8698	32.8211
5	33.8321	38.2109	37.2072
6	31.5305	32.7768	28.5004
7	39.3421	40.3978	38.5428
8	27.0757	29.7035	27.3986
9	31.6409	33.4426	32.7862
10	36.207	37.9547	36.5902
11	29.4383	31.8347	30.5405
12	35.3511	36.7607	36.2374
13	34.3837	36.7905	36.7261
14	30.8161	33.1026	32.7547
15	37.448	38.5911	37.448
AVERAGE	32.588	34.7506	33.4462

ALL_INSTANCES

n = 70, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	66.8745	66.132	64.4422
2	85.9911	79.9128	76.3741
3	50	50.2292	49.7549
4	72.9562	73.8126	72.9464
5	59.1492	57.9983	53.3948
6	81.8578	80.5039	80.1539
7	59.1298	58.586	54.4576
8	55.7857	56.0243	54.459
9	86.688	84.2439	82.5107
10	88.93	88.93	88.93
11	70.719	70.8779	69.7978
12	68.9601	69.4359	65.8072
13	82.0592	80.1811	78.0397
14	72.306	69.0356	67.5033
15	71.9878	66.1971	65.7582
AVERAGE	71.5596	70.14	68.2887

n = 70, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	61.035	59.0027	54.0824
2	76.3741	69.7475	68.3702
3	43.3734	42.7684	40.573
4	67.3672	63.8547	62.6493
5	50.0227	47.2014	45.8357
6	77.0384	72.048	71.0028
7	49.5997	48.6515	45.0392
8	54.3881	49.583	47.4449
9	79.8706	73.9153	72.6986
10	84.052	71.6101	70.5402
11	63.0287	59.9986	59.81
12	61.7119	60.872	60.872
13	66.3201	61.3545	60.5554
14	66.5875	67.0723	67.0723
15	61.5584	56.9267	54.3577
AVERAGE	64.1552	60.3071	58.7269

n = 70, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	47.3166	47.3691	47.3166
2	55.7772	54.1186	51.0056
3	34.7385	36.0582	34.7385
4	56.696	56.3102	54.7671
5	38.233	37.1822	36.1825
6	64.066	55.5821	54.1737
7	39.4923	40.9668	37.3055
8	40.5726	39.2764	36.946
9	68.3929	63.6872	62.3438
10	65.8385	64.1701	58.7828
11	57.5226	50.3028	49.2886
12	49.0553	48.8424	46.997
13	54.896	53.5273	50.2771
14	55.6653	54.0404	54.0404
15	51.7648	47.4165	46.6555
AVERAGE	52.0018	49.9233	48.0547

n = 70, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	32.6848	35.7528	34.4975
2	36.7944	38.6728	37.2029
3	23.748	24.7539	23.9983
4	37.3726	41.248	38.7457
5	27.111	28.2776	27.3654
6	37.0859	39.8144	38.4816
7	27.1359	27.4337	25.7878
8	27.194	28.1011	26.4823
9	39.9353	44.4563	42.279
10	41.659	43.3025	42.7236
11	34.8989	37.8601	36.0017
12	32.9036	35.6294	33.815
13	34.0998	39.0927	37.7443
14	36.153	36.4831	34.2825
15	33.6605	35.2254	33.1869
AVERAGE	33.4958	35.7403	34.173

n = 80, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	79.0645	76.6002	76.5115
2	85.9985	82.2351	81.0041
3	53.9933	51.4338	49.5815
4	68.333	66.6249	65.3717
5	77.6185	73.879	72.5285
6	84.2021	83.1162	78.7725
7	82.9354	78.5587	72.0296
8	75.3289	74.2795	74.2795
9	78.7037	78.256	78.144
10	70.5416	70.2472	69.8056
11	73.3797	71.8111	71.4189
12	55.8492	55.8492	55.8492
13	71.3126	66.5064	62.7541
14	49.6586	48.8521	47.1652
15	79.4374	77.7099	76.5582
AVERAGE	72.4238	70.3973	68.7849

n = 80, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	73.1714	69.0603	67.6559
2	78.3854	77.2856	74.8066
3	47.6716	47.2307	44.7173
4	63.4498	56.6842	54.829
5	71.1935	66.1981	65.0266
6	76.6797	75.0459	74.036
7	71.065	66.0028	63.7967
8	65.3712	62.7379	60.3591
9	69.4294	67.3842	64.2252
10	64.5907	61.9477	60.9534
11	67.0149	61.6261	61.446
12	49.008	47.2592	47.0253
13	53.4923	48.9467	47.4327
14	45.6953	43.6014	41.737
15	70.9422	68.0347	67.2187
AVERAGE	64.4774	61.2697	59.6844

n = 80, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	65.1445	60.7079	58.4651
2	69.2216	62.4803	60.1786
3	39.4881	37.5324	36.6953
4	50	49.8711	47.1892
5	60.7645	60.1494	58.3838
6	65.3588	59.7853	59.3698
7	60.7027	56.3285	55.7557
8	56.4383	53.4851	51.8706
9	60.1014	59.4226	59.139
10	51.1076	51.4126	48.9549
11	50.3591	50.0527	46.4989
12	40.5054	40.4024	39.8014
13	41.4187	40.4428	38.9811
14	39.5158	35.5162	33.2773
15	60.3015	58.93	54.5374
AVERAGE	54.0285	51.7679	49.9399

n = 80, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	42.9733	45.919	42.9733
2	46.8703	48.0513	46.4076
3	24.7908	26.4824	25.6804
4	33.3333	36.279	34.3587
5	38.1616	41.9643	38.9027
6	42.653	44.7286	42.9957
7	41.4557	41.9534	41.3113
8	37.3744	37.1598	35.5513
9	39.3518	41.4187	39.9204
10	34.6822	38.0707	37.9809
11	36.09	36.4971	35.9374
12	25.388	27.4926	26.9124
13	29.3568	30.4608	29.3661
14	26.3636	26.8385	26.3636
15	38.7598	42.41	38.7598
AVERAGE	35.8403	37.7151	36.2281

ALL_INSTANCES

n = 90, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	83.4703	80.7021	80.1145
2	95.2966	81.9774	81.6067
3	42.5991	42.2973	40.1186
4	59.2552	59.1585	58.9193
5	83.4732	81.4072	80.0369
6	86.8673	85.203	85.203
7	71.9541	69.9634	69.4984
8	80.3536	75.7689	72.7124
9	67.6281	67.1005	66.805
10	81.6732	75.3853	72.6724
11	48.2173	48.0906	48.0589
12	71.1402	66.0377	65.023
13	89.6367	83.9066	82.0016
14	62.6823	61.9712	61.4971
15	87.7129	84.6629	82.5251
AVERAGE	74.1307	70.9088	69.7862

n = 90, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	66.4837	62.1549	60.9094
2	56.9398	55.4504	52.78
3	34.8301	34.8301	34.8301
4	49.1613	44.9373	44.1903
5	59.087	56.532	54.2946
6	68.4523	67.0469	63.1213
7	56.4819	56.7717	56.4819
8	65.5226	57.7443	56.5723
9	50.3651	50.9624	47.7862
10	56.3947	52.2832	51.2297
11	39.6309	38.2743	38.2743
12	50	49.9464	49.7833
13	68.7723	64.0747	60.2901
14	47.5957	45.8751	44.9066
15	65.1986	60.6809	57.7128
AVERAGE	55.6611	53.171	51.5442

n = 100, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	68.0017	67.615	66.0682
2	57.3441	57.3441	57.3441
3	76.1476	73.7655	73.7655
4	58.8904	58.6584	58.5038
5	80.4018	77.2321	72.4775
6	71.6899	64.353	62.4661
7	93.8739	84.9355	82.4289
8	90.6771	82.9269	79.4903
9	73.5992	72.3463	71.5111
10	82.2324	76.5124	74.2348
11	80.7944	77.3145	76.3572
12	64.5629	62.9156	57.5557
13	80.7408	80.7408	80.7408
14	62.2195	59.5526	55.3746
15	78.1111	76.9467	72.289
AVERAGE	74.6191	71.544	69.3738

n = 100, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	48.4238	43.4739	41.8232
2	47.7257	46.6617	46.4977
3	59.1713	55.6714	55.2815
4	49.1056	44.8192	43.4222
5	59.9888	57.9218	57.1071
6	56.8547	54.3309	52.7547
7	68.1538	63.8427	62.1615
8	68.9756	68.2799	65.4091
9	64.8522	59.8262	58.5851
10	63.1054	58.38	56.3377
11	63.6277	61.1239	58.8227
12	49.2075	44.6588	43.4527
13	66.2661	65.3532	64.1629
14	44.3919	42.3227	41.7091
15	62.3624	56.1719	55.5598
AVERAGE	58.1475	54.8559	53.5391

n = 90, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	74.9957	71.5041	71.5041
2	73.741	69.8221	63.4652
3	39.3575	38.0817	37.1792
4	56.9575	53.956	52.0278
5	71.5694	67.3113	63.964
6	83.3963	79.0635	76.0158
7	65.8484	63.1968	61.1598
8	72.4101	67.8192	66.9491
9	56.4751	55.0519	53.7468
10	70.5625	68.4926	66.0289
11	44.8823	43.2968	41.5775
12	64.6783	60.4209	59.1516
13	80.9775	74.1368	73.6353
14	53.4818	53.1527	52.1915
15	78.934	74.6962	71.6732
AVERAGE	65.8845	62.6668	60.6847

n = 90, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	49.4696	49.6811	48.11
2	39.8113	42.8743	40.4955
3	25	25.2058	22.9895
4	32.0447	32.7312	32.1687
5	44.0344	44.4445	41.0754
6	46.5489	50.7156	47.8212
7	41.9756	43.2145	42.4703
8	42.9314	44.5617	41.7315
9	34.0047	35.5746	31.7279
10	39.0428	39.7964	39.0428
11	27.7717	27.6742	26.561
12	34.1681	38.1812	37.2603
13	44.8184	48.9195	47.8487
14	31.5227	32.3067	31.6281
15	45.305	47.3856	46.6344
AVERAGE	38.5633	40.2178	38.5043

n = 100, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	57.6747	52.2108	50.9656
2	54.0054	53.8761	53.2753
3	66.3083	64.2433	64.2433
4	56.0312	53.5958	52.0183
5	65.5304	64.3651	63.289
6	61.4506	61.0244	59.1771
7	78.3169	73.8989	71.1555
8	77.4189	76.0242	75.1177
9	68.6692	66.1746	65.4321
10	72.5692	70.9951	67.1917
11	75.5114	66.323	65.9928
12	57.2564	55.5214	53.2877
13	74.0454	72.622	72.622
14	51.6668	51.299	49.3624
15	68.8985	67.881	66.2889
AVERAGE	65.6902	63.337	61.9613

n = 100, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	32.0705	32.4735	31.8425
2	34.405	33.233	33.0237
3	40.1339	41.4483	40.1256
4	33.9808	34.3438	33.3018
5	43.8011	44.6645	43.8011
6	42.5148	41.8394	39.0607
7	49.4258	50.4692	49.4258
8	46.7203	46.9246	45.5791
9	46.5062	44.033	42.8885
10	46.566	46.3761	46.0912
11	45.1231	45.2711	44.602
12	33.2297	34.777	33.6291
13	45.6443	49.8274	49.4302
14	32.4297	32.3518	31.4204
15	44.0589	44.9868	43.0754
AVERAGE	41.1073	41.5346	40.4865

ALL_INSTANCES

n = 250, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	77.2819	73.4318	67.6036
2	79.6094	79.9945	78.0874
3	94.7109	91.6252	91.6252
4	70.4031	70.3297	70.0359
5	79.8618	79.2173	78.8814
6	58.765	58.6474	58.6474
7	83.0612	82.624	82.5754
8	80.7016	79.9401	76.8941
9	87.5831	87.5831	87.5831
10	78.5979	78.1062	77.3687
11	78.812	77.7269	77.0035
12	83.8738	84.2017	83.6975
13	81.4552	81.1396	80.9848
14	74.6389	73.3846	71.5031
15	86.1894	85.893	85.893
AVERAGE	79.703	78.923	77.8923

n = 250, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	62.7539	61.8042	60.8718
2	64.7139	64.7028	62.6487
3	77.9119	76.2152	73.2275
4	61.8564	60.7966	59.4606
5	69.9998	69.4056	67.368
6	51.1864	50.0639	48.4352
7	74.5265	70.6656	69.3409
8	69.6035	64.9982	63.3093
9	80.1464	76.4678	75.117
10	64.5079	63.3347	60.63
11	70.0023	66.5216	65.8149
12	71.1618	68.3558	66.1631
13	62.7193	60.538	60.538
14	65.3023	63.6139	60.8474
15	72.9006	66.2391	64.9737
AVERAGE	67.9529	65.5815	63.9164

n = 500, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	80.6817	81.2984	80.6817
2	94.627	94.627	94.627
3	94.3091	94.1823	93.9922
4	79.2553	79.2553	79.2553
5	94.1797	94.1797	94.1797
6	71.1955	71.4432	71.1955
7	80.7262	79.4792	79.1674
8	90.6829	90.6829	90.6829
9	88.8679	88.8679	88.8679
10	89.471	87.5945	86.9708
11	71.0373	71.0373	71.0373
12	83.8012	83.7288	83.7288
13	92.6658	92.5207	92.2481
14	84.0936	82.9172	82.9172
15	73.3136	71.3106	71.3106
AVERAGE	84.5939	84.2083	84.0575

n = 500, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	71.5446	70.4719	69.1164
2	80.6172	79.7424	79.2444
3	84.2526	82.3144	81.1803
4	65.6176	64.6711	64.0528
5	80.7546	80.5301	79.2186
6	64.2273	63.5206	62.4606
7	69.8909	68.6845	66.8749
8	75.068	72.2858	72.1438
9	76.929	71.9695	71.8948
10	82.5891	77.1572	77.0227
11	59.4444	58.1649	56.5881
12	70.5561	69.9843	69.5096
13	83.2744	82.135	79.6852
14	73.8113	69.4714	69.1994
15	63.9734	62.3956	61.5797
AVERAGE	73.5034	71.5666	70.6514

n = 250, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	66.1583	66.2253	64.8599
2	73.142	70.1181	69.752
3	83.7191	83.4507	83.048
4	67.5179	64.527	63.2906
5	75.547	74.2738	73.7248
6	56.5339	57.0221	56.5339
7	80.5593	78.8465	77.5147
8	74.5794	71.6451	71.1107
9	84.4335	84.0362	83.3081
10	73.8264	69.993	66.25
11	75.0876	72.1779	70.8672
12	78.6885	76.5058	73.2155
13	75.5861	69.7211	68.2549
14	69.7694	69.2467	68.977
15	80.453	79.3725	79.3297
AVERAGE	74.3734	72.4775	71.3358

n = 250, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	50.1883	48.7746	45.7775
2	53.7604	53.1145	52.626
3	60.3661	60.0702	58.4523
4	51.3878	49.3281	48.6895
5	59.2215	57.6604	55.4499
6	45.0729	43.0988	42.3474
7	60.1929	57.4461	55.8047
8	56.6872	54.6657	52.7956
9	66.5718	62.8281	61.7443
10	53.6903	53.3518	53.2672
11	57.5094	54.5469	52.9861
12	62.6663	59.569	58.04
13	54.2659	52.367	50.8181
14	55.986	53.4324	52.1187
15	58.8643	56.4329	55.0795
AVERAGE	56.4287	54.4458	53.0664

n = 500, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	78.0307	77.1464	76.9253
2	88.0217	85.2797	84.7798
3	88.8242	87.7977	87.1391
4	69.466	70.1538	68.8475
5	86.8769	86.0244	85.1786
6	69.7568	69.1194	67.8274
7	76.5725	76.4209	75.8854
8	79.8921	79.7238	79.0505
9	85.1035	79.1303	77.8708
10	85.0537	84.7508	84.1599
11	66.3214	65.9685	64.946
12	78.5057	74.2728	74.2728
13	89.8304	87.29	85.9354
14	80.9453	80.5476	77.952
15	69.2448	67.6946	66.5542
AVERAGE	79.4964	78.088	77.155

n = 500, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	61.5203	59.7598	57.865
2	67.9026	67.5386	67.0454
3	73.769	72.5152	71.991
4	58.5231	57.0285	57.0256
5	72.7745	70.4864	69.0842
6	56.0409	55.2235	54.7533
7	62.6399	61.7755	61.4953
8	64.9247	62.6585	60.642
9	66.5562	65.2679	64.9214
10	69.2386	65.5878	65.2653
11	50.968	49.5335	48.1119
12	60.5744	59.3058	57.5526
13	73.6902	71.1345	69.9486
14	63.0734	60.4073	60.1461
15	56.6464	54.9872	53.8058
AVERAGE	63.9228	62.214	61.3102

ALL_INSTANCES

n = 1000, k = 5			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	85.9988	85.9988	85.9988
2	93.646	93.646	93.646
3	69.2364	69.2936	69.2364
4	89.4301	89.4301	89.4301
5	91.1982	91.9863	91.1982
6	89.0949	89.0949	89.0949
7	78.6624	78.0894	77.8286
8	83.0857	83.0857	83.0857
9	87.778	87.778	87.778
10	90.8034	90.8034	90.8034
11	91.3831	91.3831	91.3831
12	91.5802	89.6985	88.444
13	80.0399	79.1797	75.7387
14	92.6923	91.5587	89.8582
15	79.587	79.7506	79.587
AVERAGE	86.2811	86.0518	85.5407

n = 1000, k = 20			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	74.5196	74.262	73.568
2	87.1211	85.2778	84.8948
3	62.1146	60.7362	60.3371
4	79.1091	78.6826	78.0906
5	80.3209	80.1988	79.6137
6	80.276	79.1925	79.1925
7	69.4136	69.0366	68.7965
8	77.8564	75.8537	74.4629
9	74.9254	74.5473	73.5169
10	77.9199	77.3486	76.9547
11	78.7551	78.1565	78.1565
12	79.146	78.1309	76.7775
13	67.7496	67.0591	66.3064
14	85.0014	83.9759	83.5468
15	71.0459	69.2117	68.1973
AVERAGE	76.3517	75.4447	74.8275

n = 1000, k = 10			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	77.8046	77.0617	77.0617
2	89.3572	89.3624	89.1672
3	66.9968	67.0169	66.9968
4	83.9169	82.0119	81.2033
5	85.5522	84.7338	84.102
6	85.3273	85.0106	84.5356
7	72.167	72.9278	71.9559
8	80.968	78.7683	78.7683
9	78.8069	79.0488	78.5424
10	82.9354	81.9262	80.4948
11	82.6696	82.9828	82.5039
12	84.5025	83.7578	82.4794
13	72.4882	72.5625	72.1359
14	87.2948	87.2453	87.1712
15	76.9276	77.0497	76.9276
AVERAGE	80.5143	80.0978	79.6031

n = 1000, k = 50			
INSTANCE	MSTH	MSH – AVG	MSH – BEST
1	68.179	67.2007	66.5046
2	79.8307	78.6498	78.211
3	56.6313	55.5162	55.2779
4	71.194	70.6836	70.5175
5	74.3485	73.4431	73.2333
6	73.3004	72.1802	72.0575
7	62.8395	62.0775	61.5637
8	69.3084	68.7241	67.7325
9	67.5001	66.7879	65.5357
10	71.4551	70.1506	69.0227
11	70.493	68.752	67.7693
12	71.9171	71.3668	71.0394
13	60.8238	60.061	59.809
14	78.4676	76.5319	75.8394
15	64.8638	64.1071	63.5909
AVERAGE	69.4102	68.4155	67.847