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Grey Code Sorting and Data Compression Report

The average number of loop iterations for Grey was 446,675, for Horner was 210,000, and for Radix was 200,260. Radix sort algorithm was the most efficient in that sense by a factor of 2 when compared to the Grey Code comparison algorithm. Radix sort is also the only one that does not do comparisons in order to sort.

Loop Iterations	Grey	Horner	Radix
	387277	210000	200292
	508189	210000	200252
	471800	210000	200254
	439340	210000	200264
	482444	210000	200288
	387736	210000	200256
	367112	210000	200258
	393918	210000	200242
	512612	210000	200224
	516323	210000	200274
Averages	446675.1	210000	200260.4

If we take a look at the Full and Binary Scores before and after we can get a sense of data compression and how effective the algorithms are. The scores for all three algorithms are the same because they are all just different ways of solving the same problem. On average the Full Score was reduced by 29% and the Binary Score was reduced by 27%.

	Full Score	Binary Score	Original Full Score	Original Binary Score
	284407	121660	372800	159812
	203169	98684	299366	136389
	213267	97840	301964	136529
	222421	111357	323005	148200
	270918	113516	364664	152891
	212555	101505	304776	137481
	218208	109312	313065	145325
	179629	82390	277048	118424
	161331	80135	244921	119819
	262146	109751	340566	151699
Averages	222805.1	102615	314217.5	140656.9