#PA1 Report

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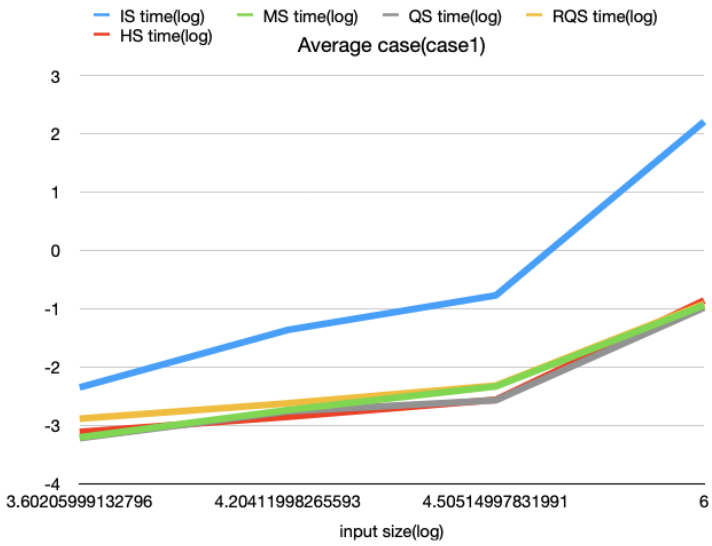
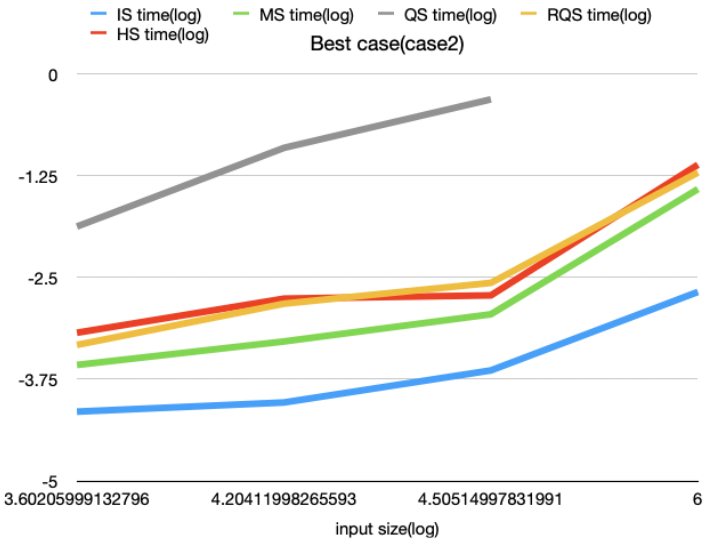
1. Plotting

   Case1: Average case



IS need the most time.

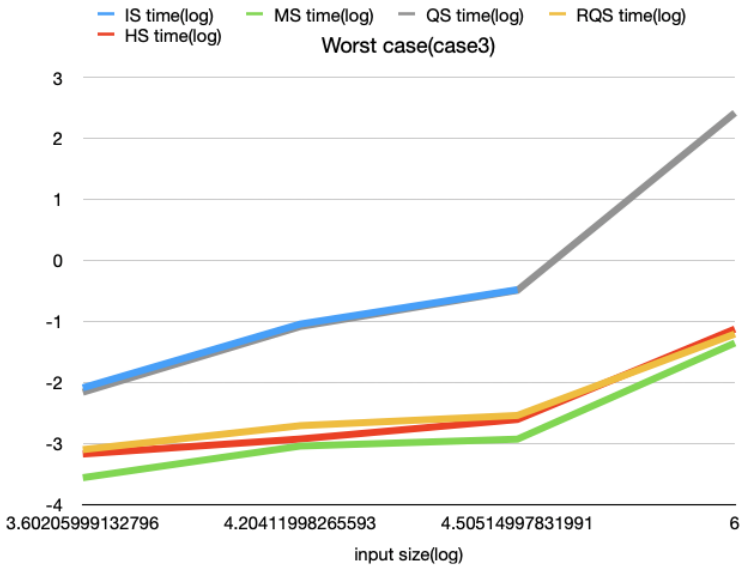
   Case2: Best case



IS needs the less time and QS needs the most time.

I guess the missing point (Merge Sort which input size is equal to 1,000,000) is due to its running time >10 minutes.

Case3: Worst case



IS and QS needs the most time in worst case.

I guess the missing point (Insertion Sort which input size is equal to 1,000,000) is due to its running time >10 minutes.

I used “ulimit -s 262144” at the point Quick sort which input size is equal to 1,000,000.

2. Findings

(1)

Input size	IS		MS		QS		RQS		HS	
	CPU time (s)	Memory (KB)	CPU time (s)	Memory (KB)	CPU time (s)	Memory (KB)	CPU time (s)	Memory (KB)	CPU time (s)	Memory (KB)
4000.case2	0.091m	5904	0.266m	5904	13.335m	5904	0.469m	5904	0.661m	5904
4000.case3	8.1m	5904	0.272m	5904	6.857m	5904	0.785m	5904	0.665m	5904
4000.case1	4.432m	5904	0.619m	5904	0.597m	5904	1.289m	5904	0.963m	5904
16000.case2	0.092m	6056	0.517m	6056	123.316m	6056	1.504m	6056	1.736m	6056
16000.case3	89.832m	6056	0.898m	6056	81.803m	6308	1.991m	6056	1.173m	6056
16000.case1	42.99m	6056	1.813m	6056	1.719m	6056	2.368m	6056	1.386m	6056
32000.case2	0.228m	6188	1.116m	6188	486.43m	6188	2.709m	6188	1.904m	6188
32000.case3	329.131m	6188	1.167m	6188	322.446m	6740	2.856m	6188	2.455m	6188
32000.case1	168.716m	6188	4.616m	6188	2.672m	6188	4.781m	6188	2.726m	6188
1000000.case2	2.099m	12144	38.452m	13896			61.522m	12144	76.564m	12144
1000000.case3		12144	44.057m	13880	260886m	24000	61.819m	12144	74.502m	12144
1000000.case1	161012m	12144	113.577m	13896	103.91m	12144	120.354m	12144	137.918m	12144

(2) I discovered that I need to command “rm *.o” before make.