

	anne-of- two freq		
freq	Bits	n	
9902	4	71	557.8592
87678	2		2469.803
82	10		11.5493
3784	5		266.4789
3242	6		273.9718
1	15		0.211268
1	15		0.211268
4961	4		279.493
271	8		30.53521
7974	4		449.2394
3	14		0.591549
3	13		0.549296
1	14		0.197183
4	13		0.732394
2	14		0.394366
284	8		32
435	8		49.01408
1841	9		233.3662
564	11		87.38028
371	11		57.47887
788	10		110.9859
340	11		52.67606
186	12		31.43662
383	11		59.33803
649	10		91.40845
3015	8		339.7183
296	11		45.85915
55	14		10.84507
467	11		72.35211
1401	9		177.5915
287	11		44.46479
351	11		54.38028
431	11		66.77465
13	15		2.746479
212	12		35.83099
840	10		118.3099
801	10		112.8169
85	13		15.56338
89	13		16.29577
518	11		80.25352
74	13		13.5493
291	11		45.08451
1	15		0.211268

	haiku1		
freq	Bits	n	
3	3	25	
11	2		0.36
2	4		0.88
1	4		0.32
1	6		0.16
1	6		0.24
1	6		0.24
1	6		0.24
2	6		0.24
5	4		0.48
2	6		0.8
3	5		0.48
2	6		0.6
5	4		0.48
2	6		0.8
1	6		0.48
2	6		0.24
2	6		0.48
1	6		0.48
2	6		0.24
6	4		0.48
3	5		0.96
1	6		0.6
1	6		0.24
1	6		0.24

expected Number Bits 10.76

compressionRatio -0.01317

38	11		5.887324
114	9		14.4507
29979	5		2111.197
5371	7		529.5352
7242	7		714
16740	5		1178.873
45224	4		2547.831
7003	7		690.4366
7572	7		746.5352
21834	5		1537.606
22046	5		1552.535
437	11		67.70423
3387	8		381.6338
17051	5		1200.775
7913	7		780.1549
26210	5		1845.775
26973	5		1899.507
5639	7		555.9577
261	12		44.11268
21052	5		1482.535
22533	5		1586.831
31750	5		2235.915
10634	6		898.6479
4108	7		405.0141
8539	6		721.6056
471	11		72.97183
8449	6		714
166	12		28.05634

expected  
Number  
Bits 32949.63

compressionRation -53.5688

	she-sells		
freq	Bits	n	
1	3	14	0.214286
7	2		1
1	3		0.214286
1	6		0.428571
2	5		0.714286
1	6		0.428571
7	3		1.5
4	4		1.142857
4	4		1.142857
1	6		0.428571
1	6		0.428571
7	3		1.5
1	6		0.428571
1	6		0.428571

expected Number Bits 10

compresstioRatio -0.01626

	tale-of-two-cities		
freq	Bits	n	
175	3	63	8.333333
1276	2		40.50794
4	9		0.571429
4	9		0.571429
1	11		0.174603
1	11		0.174603
95	4		6.031746
28	5		2.222222
21	6		2
3	9		0.428571
12	7		1.333333
11	10		1.746032
6	11		1.047619
60	8		7.619048
13	10		2.063492
8	11		1.396825
18	9		2.571429
8	11		1.396825
6	11		1.047619
73	7		8.111111
1	13		0.206349
4	12		0.761905
11	10		1.746032
7	11		1.222222
7	11		1.222222
4	12		0.761905
9	10		1.428571
7	11		1.222222
18	9		2.571429
35	9		5
1	13		0.206349
21	9		3
7	11		1.222222
29	9		4.142857
1	13		0.206349
1	11		0.174603
1	11		0.174603
469	5		37.22222
67	7		7.444444
119	7		13.22222
231	6		22
714	4		45.33333
128	6		12.19048

101	7		11.22222
381	5		30.2381
333	5		26.42857
7	11		1.222222
44	8		5.587302
165	6		15.71429
107	7		11.88889
383	5		30.39683
424	5		33.65079
123	7		13.66667
4	12		0.761905
386	5		30.63492
326	5		25.87302
524	4		33.26984
133	6		12.66667
48	8		6.095238
124	7		13.77778
3	12		0.571429
92	7		10.22222
2	13		0.412698

expected Number Bits	566.3333
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compressionRatio	-0.93748
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	tongue- twisters		
freq	Bits	n	
25	3	38	1.973684
42	2		2.210526
2	5		0.263158
12	4		1.263158
1	5		0.131579
2	9		0.473684
1	9		0.236842
1	9		0.236842
1	9		0.236842
1	9		0.236842
4	7		0.736842
2	8		0.421053
2	8		0.421053
17	5		2.236842
1	9		0.236842
13	6		2.052632
5	7		0.921053
40	4		4.210526
1	9		0.236842
1	9		0.236842
15	5		1.973684
19	5		2.5
11	6		1.736842
23	5		3.026316
1	9		0.236842
11	6		1.736842
11	6		1.736842
10	6		1.578947
1	9		0.236842
14	5		1.842105
32	4		3.368421
14	5		1.842105
6	6		0.947368
4	7		0.736842
12	6		1.894737
2	8		0.421053
10	6		1.578947
4	7		0.736842

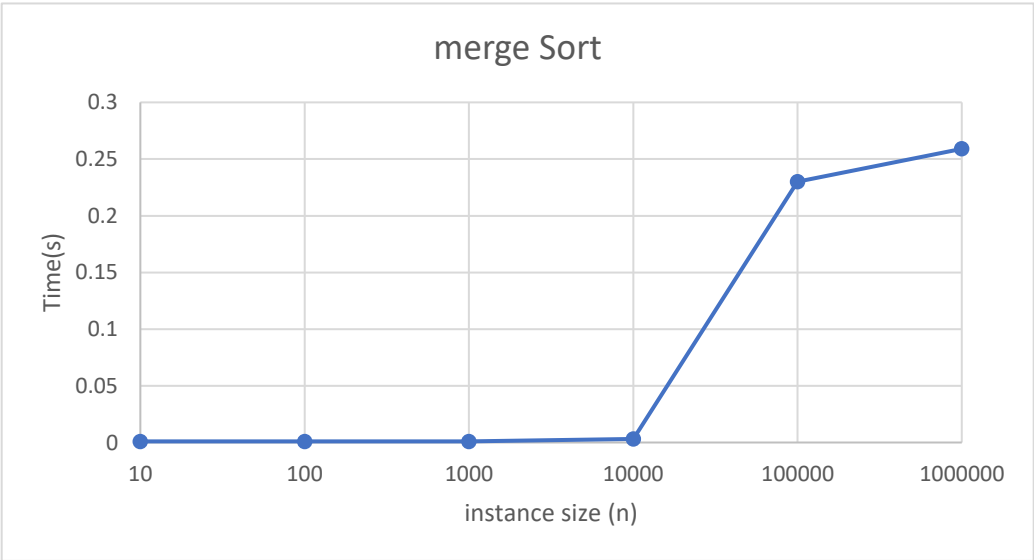
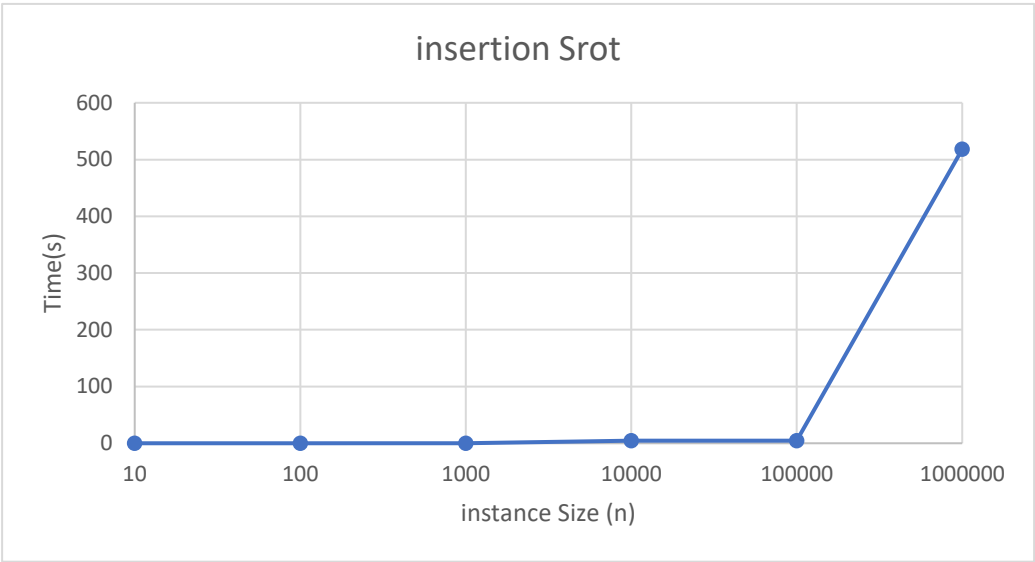
expected number Bits	47.10526
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compressionRatio	-0.07976
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minimum	-53.5688
maximum	-0.01317
average	-10.9231
Standard deviation	23.8429

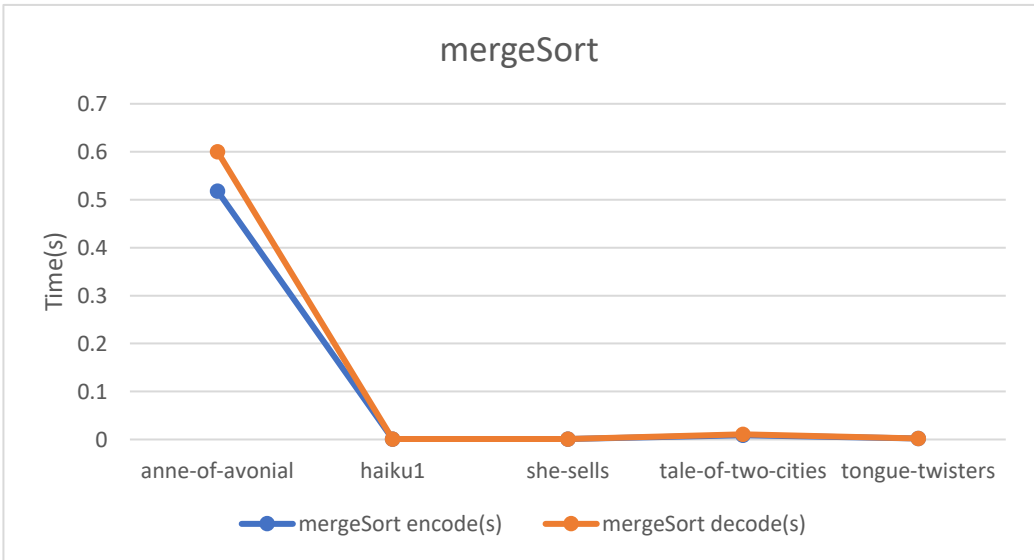
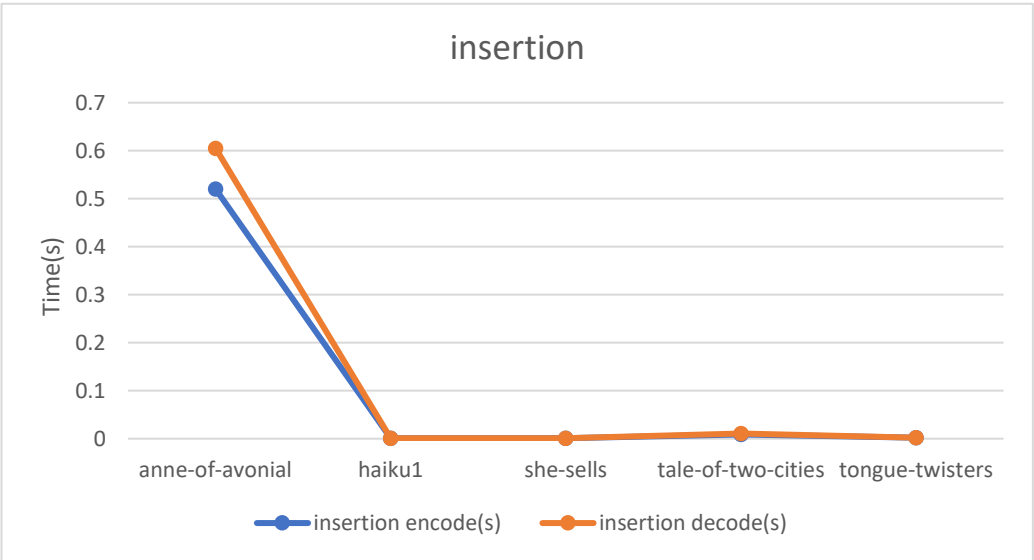
insertion	Size(n)	Time(s)
	1000000	518.078
	100000	4.611
	10000	4.646
	1000	0.002
	100	0.001
	10	0.001

mergeSort	size(n)	Time(s)
	1000000	0.259
	100000	0.23
	10000	0.003
	1000	0.001
	100	0.001
	10	0.001



	insertion	
	encode(s)	decode(s)
anne-of-avonial	0.52	0.605
haiku1	0.001	0.001
she-sells	0.001	0.001
tale-of-two-cities	0.009	0.011
tongue-twisters	0.002	0.002

	mergeSort	
	encode(s)	decode(s)
anne-of-avonial	0.518	0.6
haiku1	0.001	0.001
she-sells	0.001	0.001
tale-of-two-cities	0.009	0.011
tongue-twisters	0.002	0.002



I expect the compression ratio to get smaller when  $n$  gets bigger.





