

Advanced Algorithms - Assignment 1

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Instructions:

- *This document must be submitted along with your implementation file.*
- *You are required to run at least 3 test cases with your implementation and fill in the tables given.*
- *You may add more columns in case you have run more test cases*
- *Reallocation threshold is the percentage of the array filled after which your implementation reallocates memory*
- *Deallocation threshold is the percentage of the array emptied after which your implementation deallocates memory.*
- *Vary the thresholds in the test cases and note the time taken for the basic operation*
- *The final section is optional and can be used if you would like to give the evaluators additional information about your assignment*

1) Dynamic Table with Structure Hacking

	Test Case 1	Test Case 2	Test Case 3
Reallocation Threshold	100	50	50
Deallocation Threshold	75	50	50
The factor by which I am increasing the size	2	2	3
The factor by which I am decreasing the	0.5	0.5	0.5

size			
Number of times copy was called	10	11	7
Total time	15625000	15625000	31250000
Average time taken	1562	1562	3125

2) Dynamic Table without Structure Hacking

	Test Case 1	Test Case 2	Test Case 3
Reallocation Threshold	100	50	50
Deallocation Threshold	75	50	50
The factor by which I am increasing the size	2	2	3
The factor by which I am decreasing the size	0.5	0.5	0.5
Number of times copy was called	10	11	7
Total time	15625000	15625000	15625000
Average time taken	1562	1562	1562

3) Splay Tree

	Test Case 1	Test Case 2	Test Case 3
Number of rotations	416	8690	135202
Total time	331441	3493136	34606552
Average time taken	3314	3493	3460

4) Additional details: