

CS 610 Semester 2024–2025-I

Assignment 5

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Note: All the timings are recorded on my local machine(AMD 5th gen CPU), sorry for that.

1 Problem 1

Running tests with configuration:

Total operations: 100000000
Insert operations: 60%
Delete operations: 30%
Lookup operations: 10%
Number of runs: 2

Testing Linear Probing

Insert time: 491ms
Delete time: 230ms
Lookup time: 68ms

Testing Quadratic Probing

Insert time: 524ms
Delete time: 239ms
Lookup time: 75ms

Testing Prime Step Probing

Insert time: 517ms
Delete time: 242ms
Lookup time: 75ms

2 Problem 2

Variation with the number of concurrent operations

Push = 70% and Pop = 30%

1e5	1e6	1e7
Time(ms): 12	Time(ms): 112	Time(ms): 1225