

Indian Institute of Engineering Science and Technology, Shibpur

Department of Information Technology

Algorithms Lab

6th Semester, 2020

Assignment 3: Hashing

Study of hashing: Use the following hashing approaches to investigate their performance in successful and unsuccessful searches. Take at least 10^5 keys as input.

1. linear probing
2. quadratic probing
3. chaining
4. double hashing

For hashing, two hash functions are to be examined. For example, $h(k) = k \bmod m$ may be used where m is a prime number. Experiment with each function against the each of the above techniques. Show the results for successful and unsuccessful cases. In each experiment, use the load factor (α) as 0.1, 0.5, 0.8, 0.9 and 0.99. Comment on the performance of the schemes and justify your experimental results with respect to theoretical results.