

Applied Programming

Quiz # 4

Registration #: _____

Q. 1: Describe what rehashing is and why it is needed?

Ans: When load factor exceeds 0.5 for hash tables with linear probing or about 0.9 for hash tables with separate chaining, the performance is expected to degrade significantly due to excessive collisions. When this happens, a hash table with a larger bucket array is allocated, keys from the old hash table are removed and inserted into the new hash table using a different hash function. This is called rehashing.

Q. 2: Draw a hash table with a bucket array of size 11. Using the hash code $h(i) = 3i+5$ and the simplest possible compression function, insert the keys 2, 4, 3, 8, 12, 9, 11 and 20 in that order into the hash table. Assume that collisions are handled using separate chaining.

0	2
1	
2	
3	3
4	
5	11
6	4
7	8
8	12
9	
10	9, 20