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, and hash function h(k) = |7-k| mod 11 to insert the keys 9, 11, 10, 18, 16, 19, 27, 18 and 38, in that order into the hash table. Assume that linear probing is used to handle collisions.

Index	Value
0	18
1	19
2	9
3	10
4	11
5	18
6	38
7	
8	
9	16
10	27