CS 201 – Data Structures II (L1)
Quiz # 02

1. [10 points] Briefly answer the following questions:
   a) Why is it helpful to keep the size of hashtable in powers of 2?
   b) What is load factor?
   c) Load factor should have smaller value for open addressing as compared to chaining. True/False? Why?

2. [10 points] Given the data below:

   Numbers (x) to be inserted in a hashtable of size 10 are:

   {49, 22, 43, 12, 31, 37,7,88,11}

   Hash function is: h(x) = (x – 3) % N

   Where N is the size of hashtable.

   Build the hashtable:

   a) using chaining
   b) using linear probing
   c) using double-hashing with the secondary hash function h`(x) = floor(x /3)
   d) resize this hashtable (by doubling its size) and resolve collisions by linear probing