

CSCI 310 – Data Structures – Spring 2019
HW 12 – Hashing (25 points)

1. For the given Table Sizes, Hash Functions, Keys, and Probing Strategies, give the *first five* table locations probed.
 - (a) (5 points) Table Size = 17; Key = 1235; $hash(x) = x \% Table\ Size$; Linear Probing function.
 - (b) (5 points) Table Size = 67; Key = 719; $hash(x) = x \% Table\ Size$; Quadratic Probing function.
 - (c) (5 points) Table Size = 23; Key = 88; $hash(x) = x \% Table\ Size$; Probing function $f(i) = i(i + 7)(-1)^i$.
 - (d) (5 points) Table Size = 43; Key = 594; $hash_1(x) = x \% Table\ Size$; $hash_2(x) = R - (x \% R)$; Probing function is Double Hashing.
2. (5 points) Consider hashing with:
 - $hash(x) = x \% TableSize$
 - A table size of 10
 - Quadratic probing

Show the contents of the hash table after inserting the keys 19, 1230, 217, 428, 3297, 16, 255, 126.

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

What to turn in: This assignment is to be turned in through Blackboard. You can type up your solution using a computer program or you can prepare your solution by hand and scan it.