

Project 2

Problem 1 (50 points)

Using the Graph code you completed for Homework 3, implement Dijkstra's Algorithm. Use the new main.cpp file uploaded with this assignment.

Problem 2 (50 points)

Write a program that stores values into a hashtable of size 15 use the three strategies discussed.

Hash Functions

$\text{hash1} = \text{key} \bmod \text{table_size}$

$\text{hash2} = \text{key} \bmod (\text{table_size} - 1)$

Double Hashing Algorithm: $\text{hash}(\text{key}, \text{iteration}) = (\text{hash1}(\text{key}) + \text{iteration} * \text{hash2}(\text{key})) \bmod \text{size}$

Keys

41	24	26	62	7	6	82	74	81	93
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Here is the output you should receive for each of the three strategies.

Hash Index	Chaining	Linear Probing	Double Hashing
0			
1			
2	62	62	62
3	93	93	93
4			82
5			
6	81 6	6	6
7	82 7	7	7
8		82	26
9	24	24	24
10		81	
11	26 41	41	41
12		26	
13			81
14	74	74	74