

## Save all work in your git and GitHub repos!!!

First create a folder with a name that associates what the program is about.

Do a “git init” to save the file/files and have git track it.

Start coding!

At the end after everything is working save and push to GitHub

(Take screenshot of source code and working output)

### 1) EmployeeSearch – (Watch Lecture 12 first)

#### a) Call this branch – **search-multiple-function**

employeeOne.c Complete searching the table for the other entries by creating search functions for the other two entries. Search by number and name have already been completed. Complete search by phone number and salary. Show example of a match and no match in each of your functions. Hence 4 cases total ->Update employeeMain.c

#### b) Call this branch – **single-search-pass-function**

employeeTwo.c – Complete searching the table for other entries by passing in the function that will perform the search. (Make sure employeeOne.c is not located in this branch.)

NOTE: employeeMain.c should be the same for both of the implementations above.

### 2) Lo Shu Magic Square

The Lo Shu Magic Square is a grid with 3 rows and 3 columns

4	9	2
3	5	7
8	1	6

The Lo Shu Magic Square has the following properties:

- The grid contains the numbers 1 through 9 exactly.
- The sum of each row, each column, and each diagonal all add up to the same number.

The diagram shows the Lo Shu Magic Square grid with arrows indicating the sums of rows, columns, and diagonals, all equal to 15.

4	9	2	→ 15
3	5	7	→ 15
8	1	6	→ 15
↓ 15	↓ 15	↓ 15	

Diagonal sums: 4 + 5 + 6 = 15 (top-left to bottom-right), 2 + 5 + 8 = 15 (top-right to bottom-left).

Create a program by simulating a magic square using a two-dimensional array. Write a function that accepts a two-dimensional array as an argument and determines whether the array is a Lo Shu Magic Square. Test the function in a program.

- 1) Create the program and test with an array that is a Lo Shu Magic Square and test where it is not. The array's can be defined in your main and should not need to be input from the user.
- 2) Create and populate a two-dimensional array with random numbers from 1-9. Recall no number should repeat when populating the array. Then check if it is a Lo Shu Magic Square. Put this random number placement in a loop until you do get a Lo Shu Magic Square. Print two things:
  - a. The total number of squares generated and tested before success, the count.
  - b. Print the square and show the placement of values in the following format:  
[a b c]  
[d e f]  
[g h i]

## **What to submit**

This is a quiz. Therefore, there will be no late submissions! You have until the end of the next day to complete. Push whatever you have completed before the deadline. No exceptions for missing submission!!!

Screenshots of source code, output of program and GitHub link saved as single PDF, DOC or DOCX