CSE 4018: Structured Programming Lab
Lab 6

Objectives

- Getting familiar with Nested Loops

Tasks

1. Given the size of a shape as an input, your goal is to print the shape in the console. A sample execution of size 5 is provided below. Provide only one C file as a solution to print all the shapes.

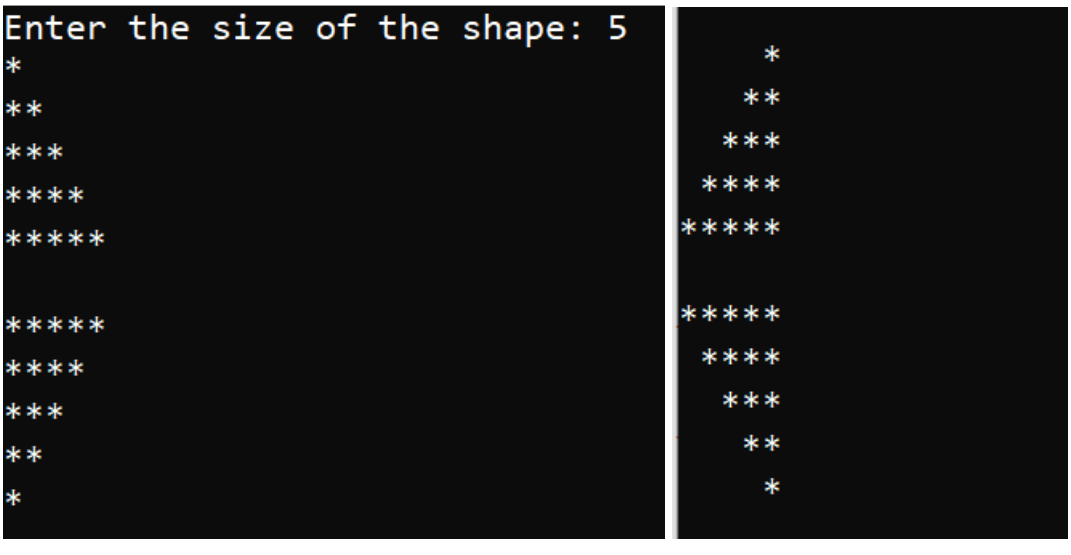

Figure 1: Sample execution for task1

For each of the shapes, provide the values of the loop control variables and status of the loop (true or false) in an excel file. A sample excel file is provided in the google classroom.

Figure 2: Sample execution for task1

2. Write a C program that would first take a row ($2 \leq$ row ≤ 100) and column ($2 \leq$ column ≤ 100) count as input. Then a row × column grid of 0s and 1s will be given as input. In the grid, there will be exactly two 1s at different positions and the rest of the values will be 0s.

   Your task is to first print out the locations of the 1s (row and column numbers, both starting from 0, following C standard) and then find the Euclidean Distance between the two 1s.
   Sample input-output is provided below:

Sample Input	Sample Output
4 5 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0	Location 1: 0, 0 Location 2: 3, 0 Distance: 3.0000
2 2 1 0 0 1	Location 1: 0, 0 Location 2: 1, 1 Distance: 1.4142

Figure 3: Sample execution for task2