



Lab Manual - Week 11

#### Introduction

Welcome Back to your favorite Programming Lab students. In this lab manual, we shall work together to learn and implement new programming concepts.

### Let's do some coding.

#### Introduction

By this week, you have learned how to write a program that contains functions, loops, arrays and conditional structures. In this class, we will learn permanently store the data into the computer and how to decompose difficult problems into small sets of easy problems and then solve them easily.

Consider that we want to develop a game that the characters as Tanks where we have a player tank and three enemy tanks and the enemy dies after collision with the fire generated by the player and vise versa while the score of the game increases. Lets execute our idea of the game one step at a time.

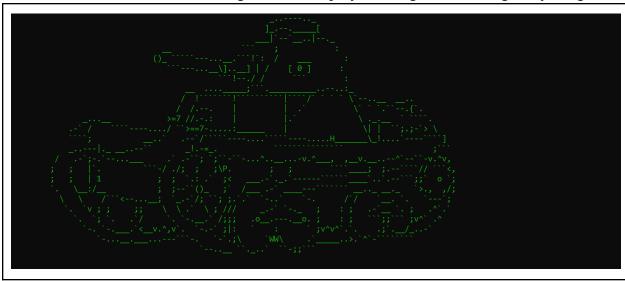




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### **Task 01(CP):**

Create the welcome screen of the game that displays the logo or the image of your game.



### **Task 02(CP)**:

Create the main menu screen for your game that prints the **header** and the **menu** using separate functions.

```
Menu.

1. Start
2. Option
3. Exit
Enter one option :
```





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### **Task 03(CP)**:

Define the submenus and the related information for your game.

```
    Keys.

Instructions.
3. Exit
Enter any option :
For example: if the user enters 1
```



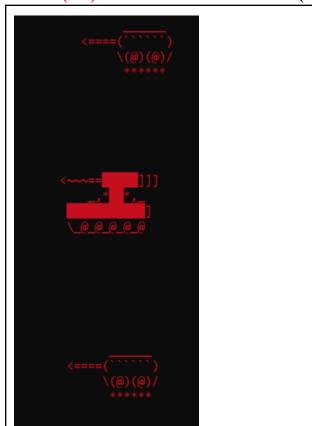


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### Task 04(CP): Draw Player Character (using code in itsMagic.cpp file)



### Task 05(CP): Draw Enemies Character (using code in itsMagic.cpp file)







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#### Task 06(CP): Draw Maze and Characters

- 1. Create the maze of your game and print it on screen when user enters the respective input. It should always print the health count of all the characters of the game outside the maze.
- 2. Spawn the characters at the XY location according to your game story.



#### Task 07(CP): Define Players Movement

Implement the movement of the players and the enemies.

In this game story, the player can move in four directions inside the maze while the enemies march towards the player. According to this game story, you loose the game when the enemies reach the opposite border of the game.

### Task 08(CP): Define Bullet Shooting

Implement the functionality so that the character shoot at each other.

The player will only shoot the bullet when the user presses the space button while the enemies generate fire after 1 second.

#### Task 09(CP): Define Collision Detection

Implement the reward and punishment system. For example: in this case, the players and the enemies will shoot bullets at each other and with each bullet by different enemies the health of the player decreases.

# Good Luck and Best Wishes !! Happy Coding ahead :)

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