

### **Assignment 3 [5 Points]:**

***Instructions:** Each of you is expected to submit program that solve the following problem. **Due date of submissions is on Saturday, 4/12/2021.***

### **Problem:**

**In this homework you should implement the Snake & Ladder game in Python language.**

- ✓ Your program should declare an array or list of 100 cells. To initialize the game, your program should choose 5 random cells to identify Snakes locations and another 5 random cells to identify Ladders locations.
- ✓ At each Ladder or Snake randomly chosen cell your program should generate a random number between 5,94 to indicate the number of steps to go forward incase if it was a ladder cell or the number of steps to go backward if it was snake cell. Your program should use a pointer to indicate your location inside the array of cells.
- ✓ A Current location variable should be modified to forward (incremented) or backward (decremented) by the number of the steps inside the cell. Be careful you should prevent your Current from going beyond your array lower and upper addresses.
- ✓ At each iteration of the game your program should prompt the user to enter dice value from 1-6 to play and modify his location inside the game.
- ✓ And according to his location you will prompt him if he reaches a snake or a ladder and automatically your program should modify his location again (forward or backward) this will continue until he reaches the cell 99.
- ✓ At the end the program will prompt the user with his points which is the number of iterations until he reaches the cell 99.

### **Notes:**

- ✓ All cells should be initialized to 0 before choosing snakes and ladders cells.
- ✓ You program should include proper functions and functions calls to organize your solution

## GCIS-123- Software Dev. & Problem Solving I

### Example:

if the 5 random numbers were 6,10,55,89,91, this means there are snakes at locations 6,10,55,89,91. the same thing you should do for ladder locations.

### Game Scenario:

```
The game will start good Luck:)
=====
enter dice number 1-6 please
4
dice=4
we are at location:4
enter dice number 1-6 please
5
dice=5
we are at location:9
enter dice number 1-6 please
6
dice=6
we are at location:15
enter dice number 1-6 please
3
dice=3
we are at location:18
enter dice number 1-6 please
4
dice=4
Oh No Snake :( you will go back -28 steps
from location 0 again
we are at location:0
enter dice number 1-6 please
6
dice=6
we are at location:6
enter dice number 1-6 please
6
```

```
5
dice=5
we are at location:82
enter dice number 1-6 please
4
dice=4
we are at location:86
enter dice number 1-6 please
2
dice=2
we are at location:88
enter dice number 1-6 please
3
dice=3
we are at location:91
enter dice number 1-6 please
4
dice=4
we are at location:95
enter dice number 1-6 please
6
dice=6
You reached the end
we are at location:99
Congratulation your points:29
*** Process returned 30 ***
Press any key to continue...
```

## Submission Instructions & Grading:

Be sure that you have submitted the following two item:

- Submit the following sheet on MyCourses' respective assignment ***before*** the deadline. it includes the rubrics that will be used for grading the assignment.

GCIS123 - Software Dev. & Problem Solving I		
Assignment 3		
CRITERIA	MAXIMUM GRADE	STUDENT GRADE
USING FUNCTIONS	1	
COMMENTS	1	
MAIN	1	
LADDER & SNAKE POSITIONS	1	
CURRENT POSITION	1	
<b>TOTAL</b>	<b>5</b>	