

SNAKES & LADDERS

(Python Project)

Name – Hemanth Vijaywargi

Batch – APJ Abdul Kalam

Table of contents :

1. Introduction
2. Python Files
3. Key Features
4. Future aspect

1. Introduction :

A Classic Game Made Using [Python v3.9.5](#).

This is a [Terminal/Text](#) Based Game where user provides input to customize the Size of Board , Number of Snakes & Ladders. This makes it better than the normal way of playing the game where the aspects of the board are Fixed.

2. Python files :

1. [main.py](#) – Run this file to Launch the Game. Consists of the [game\(\)](#) function responsible for running the game. A function [createBoard\(\)](#) is also present which is responsible for taking user input and returns a board.

2. **board.py** – This file consists of the **Board** class responsible for Creation of the snakes and ladders board.

Board Class Methods :

1. **__init__()** – Initialize the Class with Various Attributes of the Board.
2. **printPositions()** – Print the Current Positions of all Players present on the Board.
3. **updatePos(player,diceVal)** – Updates the Position of a Player on the board according to the Dice Value. The function will check for any Snakes and Ladders at the newPostion and update the Position accordingly. In case of a dice Value greater than moves left on the board the Position will not be updated.
4. **generateSnakes(Tsnakes)** – Takes in Number of Snakes required as a parameter and Generates Random Snakes within the Board Size Specified by the user. Makes sure no snakehead is created at the Tail of another Snake.
5. **generateLadders(Tladders)** – Takes in Number of Ladders required as a parameter and Generates Random Ladders within the Board Size Specified by the user. Makes sure no LadderTop is created at the bottom of another Ladder and also prevents any LadderTop to be created at a SnakeHead.

3. **dice.py** – Contains the **roll()** function which returns a random number between 1 to 6 and also plays a dice roll Animation.

4. **art.py** – This file contains various ASCII/Text art like dice Faces, Snake, Ladder which are used throughout the project.

3. Key Features :

1. Truly Random Placement of Snakes and Ladders on the Board each game.
2. Customizable Size of the Board.
3. Dice Animation in a Terminal Based Game.
4. ASCII/Text art which makes looking at the game interesting.

4. Future aspect :

I can use Libraries like **Pygame** & **Tkinter** to add **GUI** to the Game.

Bonus Feature :

Windows Users can directly run **Snakes_and_Ladders.exe**, no need to install python.