***PES UNIVERSITY ELECTRONIC CITY CAMPUS***

***DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING***

***DATA STRUCTURES***

***PROJECT SYNOPSIS***

**BATCH NO** :- 2

**PROJECT TITLE** :- Snake and Ladder Game

**APPROACH** :- In this project, we are implementing the Snake and Ladder Game with Graphs using Adjacency Multilist.

We have taken a 5x6 game board with 30 spaces and manually calculated the adjacency multilist for that and stored the values in a separate file. In our code, we define have defined a function to read the values from the file and store them in the multilist.

Each individual list stores 4 values.   
1. Current Node  
2. Next Node  
3. Link of Current Node  
4. Link of Next Node

The current position of each player is stored as a list index in a global variable and is used to calculate the current position and next movable positions.

In order to roll the dice, we take the current time as a seed and generate a random number between 1 to 6. This ensures we get different dice rolls every game.

For moving,  
1. First, we check is there are available spaces on the board for that number of moves  
2. Next we move the player’s piece n-1 times  
3. If for the last move there is a snake or ladder available, we take that  
4. Else we normally move one space ahead  
5. At the end of every case we check to see if the player is on the last place

**STUDENT DETAILS**

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