Snake And Ladder Game

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UC1:

Snake and Ladder game played with single player at start position 0

UC2:

The Player rolls the die to get a number between 1 to 6.

- Use ((RANDOM)) to get the number between 1 to 6

UC3:

The Player then checks for a Option. They are No Play, Ladder or Snake.

- Use ((RANDOM)) to check for Options
- In Case of No Play the player stays in the same position
- In Case of Ladder the player moves ahead by the number of position received in the die
- In Case of Snake the player moves behind by the number of position received in the die

UC4:

Repeat till the Player reaches the winning position 100

- Note In case the player position moves below 0, then the player restarts from 0

UC5:

Ensure the player gets to exact winning position 100.

- Note in case the player position go above 100, the player stays in the same previous position till the player gets the exact number that adds to 100

UC6:

Report the number of times the dice was played to win the game and also the position after every die role

UC7:

Play the game with 2 Player and report which Player won the game

player.py

```
class Player:
  def __init__(self,name):
    #UC1
    self.name=name
    self.position=0
```

snake_and_ladder_game.py

```
import random
from player import Player
class SnakeAndLadderGame:
  def __init__(self):
    self.player1=Player("Player 1")
    self.player2=Player("Player 2")
    self.dice_count=0

  #UC2
  def roll_dice(self):
    #UC6
    self.dice_count+=1
    return random.randint(1,6)

  #UC3
  def check_options(self,player,dice_val):
    options=random.choice(["No Play","Ladder","Snake"])
    if options=="No Play":
```

```
        pass #position remains same
    elif options=="Ladder":
        player.position+=dice_val
    elif options=="Snake":
        player.position-=dice_val

    #Player shouldn't go below 0
    if player.position<0:
        player.position=0

    #UC5
    if player.position>100:
        player.position-=dice_val
    return options

#UC4
def play_game(self):
    while self.player.position<100:
        dice=self.roll_dice()
        option=self.check_options(dice)
        print("Dice rolled:",dice)
        print("Option:",option)
        print("Players position:",self.player.position)
    print("Total dice rolls to win:",self.dice_count)
    print("Player reached the end and won")
```

```
    #UC7
    def play_game_with_two_players(self):
        current_player=self.player1
        other_player=self.player2

        while True:
            dice=self.roll_dice()
            option=self.check_options(current_player,dice)
            print(f"{current_player.name} rolled {dice} with option: {option} at position
{current_player.position}")

            if current_player.position ==100:
                print(f"{current_player.name} won the game")
                print("Total dice rolls:",self.dice_count)
                break

            #switch turns
            current_player,other_player=other_player,current_player

game=SnakeAndLadderGame()
game.play_game_with_two_players()
```