



## **SESSION - 9**

# **ENHANCED SNAKE AND LADDER GAME**



## Learning Outcomes:

- **Remember:** The students will recall about REPEAT loops , WHILE loops and FOR loops .
- **Understand:** They will focus on use of Multiple Nested Loops .
- **Apply:** They will learn to apply the concepts of NESTED LOOP , Time and Random Library , to code and create a multiplayer game .
- **Analyze:** They will check their understanding by developing a code .
- **Create:** They will create the code in EduBlocks

# ACTIVITY DESCRIPTION

## Remember & Understanding

**What is happening in Game:**

**1. Display the welcome message.**

- **Create a code to add more difficulties in snake game**
- **Multiplayer conditions**

**2. Until one of the player wins do the following:**

**2.1- Roll the dice.**

**2.2- Move the player forward for the value got on the dice roll.**

**2.3- If the player is on snake's head, move down to its tail.**

**2.4- If the player is on ladder's bottom, take it to its top.**

# Apply & Create

## TASK 01:-

**</> WRITE A PROGRAM TO MAKE SNAKE AND  
LADDER GAME**

# Program Step 1:-

- Import required libraries
- Create dice, player1 and player 2 variables
- initialize all the variables
- Print welcome message
- Explain the rules of the game

```
# Start Code Here
import time
import random

dice = 0
P1 = 0
P2 = 0

print(" Welcome to Snake and Ladders ")

time.sleep( 2 )

print(" It is a 2 player game ")

time.sleep( 2 )

print(" Each player will get a chance to roll the dice ")

time.sleep( 2 )
```

## Program Step 2:-

- Explain the rules of the game
- Ask user to press enter to start the game

```

print(" On touching the snake, Player will be sent backwards ")
time.sleep( 2 )
print(" On touching the ladder, player will be taken forward ")
time.sleep( 2 )
print(" Player who reaches position 100, will be the winner ")
time.sleep( 2 )
print(" Happy Playing!!! ")
time.sleep( 2 )
print( input( "Press Enter to start the game " ) )

```

## Program Step 3:-

- Add a while loop to run the code until there is a winner
- Print whos turn it is
- Ask the player to press enter to roll the dice
- Show the dice number
- Change the current position of the player by dice number
- Print the player position
- If player has reached 100, exit the loop and declare the winner

```

while True :
    print(" Player 1 turn ")
    print( input( "Press Enter to start the roll the dice" ) )
    dice = random.randint( 1,6 )
    print(" Rolling the dice..... ")
    time.sleep( 3 )
    print( "You have got " , dice )
    P1 += dice
    print( "You have reached " , P1 )
    if P1 >= 100 :
        print(" Player 1 wins ")
        break
  
```

# Program Step 4:-

Check if the player has touched any position of multiple snakes

```

if P1 == 25 :
    print(" OOPS!! You have got bitten by a snake ")
    P1 = 5
    print( "You have reached " , P1 )

elif P1 == 58 :
    print(" OOPS!! You have got bitten by a snake ")
    P1 = 28
    print( "You have reached " , P1 )
    
```



# Program Step 5:-

Check if the player has touched any position of multiple snakes

```

elif P1 == 76 :
    print(" OOPS!! You have got bitten by a snake ")
    P1 = 20
    print( "You have reached " , P1 )

elif P1 == 97 :
    print(" OOPS!! You have got bitten by a snake ")
    P1 = 57
    print( "You have reached " , P1 )

```

# Program Step 6:-

Check if the player has reached any Ladder

```

if P1 == 11 :
    print(" Woah!! you have got a ladder ")
    P1 = 63
    print( "You have reached " , P1 )

elif P1 == 24 :
    print(" Woah!! you have got a ladder ")
    P1 = 57
    print( "You have reached " , P1 )

elif P1 == 65 :
    print(" Woah!! you have got a ladder ")

```

# Program Step 7:-

Check if the player has reached any Ladder

```

P1 = 84
print( "You have reached " , P1 )

elif P1 == 77 :
    print( "Woah!! you have got a ladder " )
    P1 = 93
    print( "You have reached " , P1 )

print( " Player 2 turn " )
print( input( "Press Enter to start the roll the dice " ) )
    
```

# Program Step 8:-

Follow the same steps for  
player 2

```

print(" Player 2 turn ")
print( input( "Press Enter to start the roll the dice" ) )
dice = random.randint( 1,6 )
print(" Rolling the dice..... ")
time.sleep( 3 )
print( "You have got " , dice )
P2 += dice
print( "You have reached " , P2 )
if P2 >= 100 :
    print(" Player 2 wins ")

```

# Program Step 8:-

Follow the same steps for  
player 2

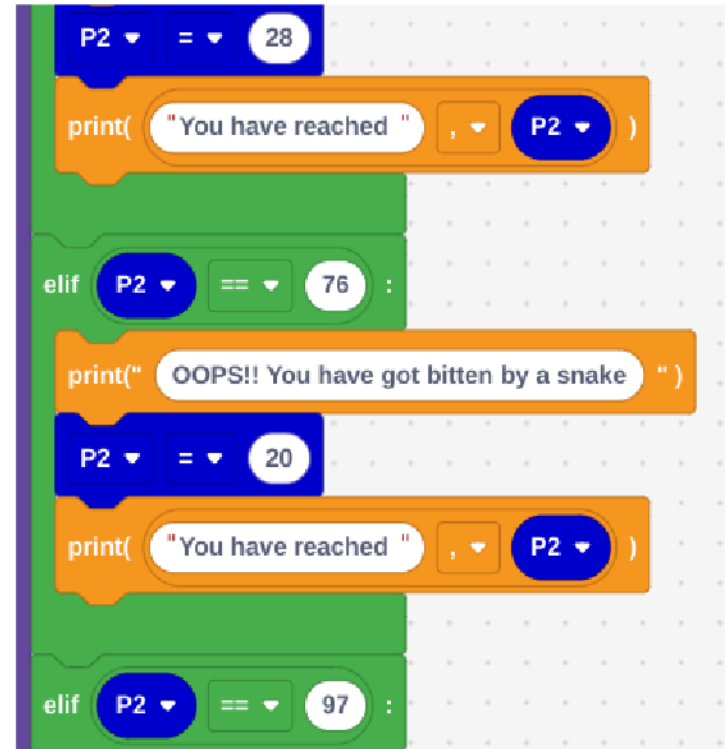
```

break
if P2 == 25 :
    print(" OOPS!! You have got bitten by a snake ")
    P2 = 5
    print(" You have reached ", P2 )
elif P2 == 58 :
    print(" OOPS!! You have got bitten by a snake ")

```

# Program Step 8:-

Follow the same steps for  
player 2



```

P2 = 28
print( "You have reached " , P2 )

elif P2 == 76 :
    print( "OOPS!! You have got bitten by a snake " )
    P2 = 20
    print( "You have reached " , P2 )

elif P2 == 97 :

```

The image shows a sequence of Scratch code blocks for Player 2. It starts with a blue 'set' block setting P2 to 28, followed by an orange 'say' block (labeled as 'print' in the image) that says 'You have reached ' followed by the P2 variable. Then there is a green 'if-else' block. The first condition is 'elif P2 == 76 :', which contains an orange 'say' block saying 'OOPS!! You have got bitten by a snake '. This is followed by another blue 'set' block setting P2 to 20, and then another orange 'say' block saying 'You have reached ' followed by the P2 variable. The final visible block is the start of another green 'if-else' block with the condition 'elif P2 == 97 :'.

# Program Step 8:-

Follow the same steps for player 2

```

elif P2 == 97 :
    print(" OOPS!! You have got bitten by a snake ")
    P2 = 57
    print(" You have reached ", P2 )

if P2 == 11 :
    print(" Woah!! you have got a ladder ")
    P2 = 63
  
```

# Program Step 8:-

Follow the same steps for  
player 2

```

P2 = 63
print( "You have reached " , P2 )

elif P2 == 24 :
    print( " Woah!! you have got a ladder " )
    P2 = 57
    print( "You have reached " , P2 )

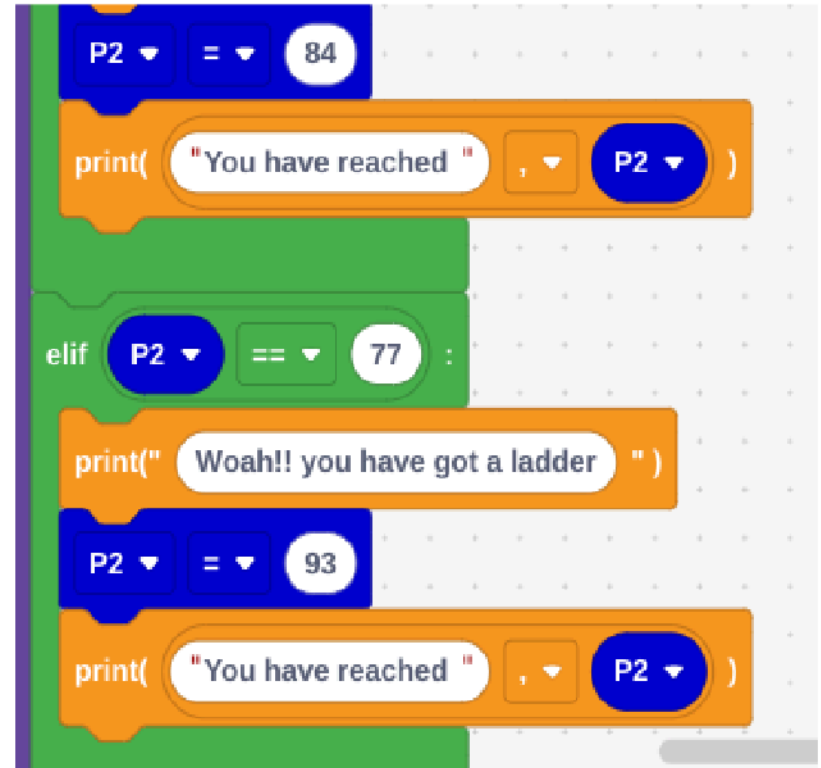
elif P2 == 65 :
    print( " Woah!! you have got a ladder " )

```



# Program Step 8:-

Follow the same steps for  
player 2



# Syntax

```
1 # Start Code Here
2 import time
3 import random
4 dice = 0
5 P1 = 0
6 P2 = 0
7 print("Welcome to Snake and Ladders")
8 time.sleep(2)
9 print("It is a 2 player game")
10 time.sleep(2)
11 print("Each player will get a chance to roll the dice")
12 time.sleep(2)
13 print("On touching the snake, Player will be sent backwards")
14 time.sleep(2)
15 print("On touching the ladder, player will be taken forward")
16 time.sleep(2)
17 print("Player who reaches position 100, will be the winner")
```

# Syntax

```
18 time.sleep(2)
19 print("Happy Playing!!!")
20 time.sleep(2)
21 print(input("Press Enter to start the game"))
22 while True:
23     print("Player 1 turn")
24     print(input("Press Enter to start the roll the dice"))
25     dice = random.randint(1,6)
26     print("Rolling the dice.....")
27     time.sleep(3)
28     print("You have got ",dice)
29     P1 += dice
30     print("You have reached ",P1)
31     if P1 >= 100:
32         print("Player 1 wins")
33         break
34     if P1 == 25:
```

# Syntax

```
35     print("OOPS!! You have got bitten by a snake")
36     P1 = 5
37     print("You have reached ",P1)
38     elif P1 == 58:
39         print("OOPS!! You have got bitten by a snake")
40         P1 = 28
41         print("You have reached ",P1)
42     elif P1 == 76:
43         print("OOPS!! You have got bitten by a snake")
44         P1 = 20
45         print("You have reached ",P1)
46     elif P1 == 97:
47         print("OOPS!! You have got bitten by a snake")
48         P1 = 57
49         print("You have reached ",P1)
50     if P1 == 11:
```

# Syntax

```
51     print("Woah!! you have got a ladder")
52     P1 = 63
53     print("You have reached ",P1)
54     elif P1 == 24:
55         print("Woah!! you have got a ladder")
56         P1 = 57
57         print("You have reached ",P1)
58     elif P1 == 65:
59         print("Woah!! you have got a ladder")
60         P1 = 84
61         print("You have reached ",P1)
62     elif P1 == 77:
63         print("Woah!! you have got a ladder")
64         P1 = 93
65         print("You have reached ",P1)
66     print("Player 2 turn")
```

# Syntax

```

67  print(input("Press Enter to start the roll the dice"))
68  dice = random.randint(1,6)
69  print("Rolling the dice.....")
70  time.sleep(3)
71  print("You have got ",dice)
72  P2 += dice
73  print("You have reached ",P2)
74  if P2 >= 100:
75      print("Player 2 wins")
76      break
77  if P2 == 25:
78      print("OOPS!! You have got bitten by a snake")
79      P2 = 5
80      print("You have reached ",P2)
81  elif P2 == 58:
82      print("OOPS!! You have got bitten by a snake")

```

# Syntax

```

82     print("OOPS!! You have got bitten by a snake")
83     P2 = 28
84     print("You have reached ",P2)
85 elif P2 == 76:
86     print("OOPS!! You have got bitten by a snake")
87     P2 = 20
88     print("You have reached ",P2)
89 elif P2 == 97:
90     print("OOPS!! You have got bitten by a snake")
91     P2 = 57
92     print("You have reached ",P2)
93 if P2 == 11:
94     print("Woah!! you have got a ladder")
95     P2 = 63
96     print("You have reached ",P2)
97 elif P2 == 24:

```

# Syntax

```
93     if P2 == 11:
94         print("Woah!! you have got a ladder")
95         P2 = 63
96         print("You have reached ",P2)
97     elif P2 == 24:
98         print("Woah!! you have got a ladder")
99         P2 = 57
100        print("You have reached ",P2)
101    elif P2 == 65:
102        print("Woah!! you have got a ladder")
103        P2 = 84
104        print("You have reached ",P2)
105    elif P2 == 77:
106        print("Woah!! you have got a ladder")
107        P2 = 93
108        print("You have reached ",P2)
```



