Title :

Implementinga rock-paper-scissor game!

Objective :

* To have fun.
* To start thinking more carefully.
* To understand the use of existing operators to perform interactive I/O using python.
* To use constants and variables appropriately.
* To write logical expressions and selections statements in python.

Components :

1. The code starts by printing a message that states the rules of the game.
2. The first line in the code prints “Rock vs paper->paper wins.”
3. This is because if you have a rock, and you play against someone who has a piece of paper, the rock will beat the paper.
4. The next line in the code prints “Rock vs scissor->Rock wins.”
5. This is because if you have a rock, and you play against someone who has a scissors, the rock will beat the scissors.
6. The last line in the code prints “paper vs scissor->scissor wins.”
7. This is because if you have a piece of paper, and you play against someone who has a scissors, then the piece of paper will beat the scissors.
8. The code will print the following output: Winning Rules of the Rock paper scissor game as follows: Rock vs paper->paper wins Rock vs scissor->Rock wins paper vs scissor->scissor wins
9. The code starts by asking the user for a choice.
10. The code then checks to see if the input is 1, 2, or 3.
11. If it is not one of those values, the code sets the choice\_name variable to ‘Rock’ if choice == 1, ‘paper’ if choice == 2, and ‘scissor’ if choice == 3.
12. The next part of the code asks the user for their computer turn.
13. The code uses a random number generator to choose between 1, 2, and 3.
14. This value is stored in comp\_choice\_name.
15. Next, the code loops until comp\_choice equals choice.
16. In each loop iteration, comp\_choice will be randomly chosen from 1-3 and stored in comp\_choice\_name.
17. Once comp\_choice equals choice, this means that the computer has chosen rock as its turn!
18. Finally, it prints out both choices so that everyone can see what happened (user choice is: Rock V/s paper; Computer choice is: Rock V/s scissor).
19. The code will ask the user for a choice between rock, paper and scissors.
20. Once the user enters their choice, the code will randomly choose one of those options as the computer’s turn.
21. The code then prints out the chosen option and the user’s choice.
22. Finally, it loops back to ask for another choice from the user.

Code :

# import random module

import random

# print multiline instruction

# performstring concatenation of string

print('Winning rules of the game ROCK PAPER SCISSORS are :\n'

+ "Rock vs Paper -> Paper wins \n"

+ "Rock vs Scissors -> Rock wins \n"

+ "Paper vs Scissors -> Scissor wins \n")

while True:

print("Enter your choice \n 1 - Rock \n 2 - Paper \n 3 - Scissors \n")

# take the input from user

choice=int(input("Enter your choice :"))

# OR is the short-circuit operator

# if any one of the condition is true

# then it return True value

# looping until user enter invalid input

while choice > 3 or choice <1:

choice=int(input('Enter a valid choice please '))

# initialize value of choice\_name variable

# corresponding to the choice value

if choice == 1:

choice\_name= 'Rock'

elif choice == 2:

choice\_name= 'Paper'

else:

choice\_name= 'Scissors'

# print user choice

print('User choice is \n',choice\_name)

print('Now its Computers Turn....')

# Computer chooses randomly any number

# among 1 , 2 and 3. Using randint method

# of random module

comp\_choice = random.randint(1,3)

# looping until comp\_choice value

# is equal to the choice value

while comp\_choice == choice:

comp\_choice = random.randint(1,3)

# initialize value of comp\_choice\_name

# variable corresponding to the choice value

if comp\_choice == 1:

comp\_choice\_name = 'rocK'

elif comp\_choice == 2:

comp\_choice\_name = 'papeR'

else:

comp\_choice\_name = 'scissoR'

print("Computer choice is \n", comp\_choice\_name)

print(choice\_name,'Vs',comp\_choice\_name)

# we need to check of a draw

if choice == comp\_choice:

print('Its a Draw',end="")

result="DRAW"

# condition for winning

if (choice==1 and comp\_choice==2):

print('paper wins =>',end="")

result='papeR'

elif (choice==2 and comp\_choice==1):

print('paper wins =>',end="")

result='Paper'

if (choice==1 and comp\_choice==3):

print('Rock wins =>\n',end= "")

result='Rock'

elif (choice==3 and comp\_choice==1):

print('Rock wins =>\n',end= "")

result='rocK'

if (choice==2 and comp\_choice==3):

print('Scissors wins =>',end="")

result='scissoR'

elif (choice==3 and comp\_choice==2):

print('Scissors wins =>',end="")

result='Rock'

# Printing either user or computer wins or draw

if result == 'DRAW':

print("<== Its a tie ==>")

if result == choice\_name:

print("<== User wins ==>")

else:

print("<== Computer wins ==>")

print("Do you want to play again? (Y/N)")

# if user input n or N then condition is True

ans = input().lower

if ans =='n':

break

# after coming out of the while loop

# we print thanks for playing

print("thanks for playing")

Output :

winning Rules of the Rock paper and scissor game as follows:

rock vs paper->paper wins

rock vs scissors->rock wins

paper vs scissors->scissors wins

Enter choice

1. Rock

2. paper

3. scissor

User turn: 1

User choice is: Rock

Now its computer turn.......

computer choice is: paper

Rock V/s paper

paper wins =>computer wins

do you want to play again?(Y/N)

Conclusion:

The code is successfully done and the output is verified.