Task 9: Build a Simple

Rock-Paper-Scissors Game

DESCRIPTION:

- This is the description of Task-9 of my python internship at Happieloop.
- Here, the task is to **Build a Simple Rock-Paper-Scissors Game** where the user plays rock-paper-scissors against the computer.
- I have created a file named **task9.py** and developed the code according to the requirements of the task.
- To implement this task I have imported the **random** module from python libraries.
- This game is an interactive game between the user and the Computer.
- As the user can select his/her choice by giving the input whereas the computer can't.
- So as the computer has to pick a choice the **random** module would help in that case.
- That means the **random.choice(choices)** function would help the computer to generate a choice randomly.
- Let me explain the gameplay of this game.
  If **Person1** selects -**Rock** and **Person2** selects -**Scissors** then **Person1** will be the **winner.**
  If **Person1** selects -**Paper** and **Person2** selects -**Scissors** then **Person2** will be the **winner.**
  If **Person1** selects -**Rock** and **Person2** selects -**Paper** then **Person2** will be the **winner.**

If **Person1** and **Person2** select the same choice then **It will be a Tie.**

- I have developed 2 functions for the implementation of the code.They are **determine_winner()** and **rock_paper_scissors().**
- The function **rock_paper_scissors()** is defined to take choices from the user as well as the computer.
- And The function **determine_winner()** is used to display whether the user **Win the game** or **Lose the game** or **It's a Tie.**
- In this way the game goes on until the user inputs **no** for the question: **Do you want to play the game?**
- Let's see the code that I have implemented to complete the task.

CODE:

```
import random

def determine_winner(user_choice, computer_choice):
    if user_choice == computer_choice:
        return "It's a tie!"
    elif (user_choice == 'rock' and computer_choice == 'scissors') or (user_choice == 'scissors' and computer_choice == 'paper') or (user_choice == 'paper' and computer_choice == 'rock'):
        return "You win!"
    else:
        return "You lose!"
```

```
def rock_paper_scissors():
    choices = ['rock', 'paper', 'scissors']
    user_choice = input("Enter your choice (rock, paper, or scissors): ").lower()
    while user_choice not in choices:
        print("Invalid choice. Please try again.")
        user_choice = input("Enter your choice (rock, paper, or scissors): ").lower()

    computer_choice = random.choice(choices)
    print(f"The computer chose: {computer_choice}")

    result = determine_winner(user_choice, computer_choice)
    print(result)
while True:
    play_again = input("Do you want to play? (yes/no): ").lower()
    if play_again != 'yes':
        break
    rock_paper_scissors()
```

- Now let’s see the implementation of the code by giving different sample inputs and obtaining corresponding outputs.

OUTPUT:

Do you want to play? (yes/no): yes

Enter your choice (rock, paper, or scissors): rock

The computer chose: rock

It's a tie!

Do you want to play? (yes/no): yes

Enter your choice (rock, paper, or scissors): scissors

The computer chose: rock

You lose!

Do you want to play? (yes/no): yes

Enter your choice (rock, paper, or scissors): scissors

The computer chose: rock

You lose!

Do you want to play? (yes/no): yes

Enter your choice (rock, paper, or scissors): rock

The computer chose: paper
You lose!
Do you want to play? (yes/no): yes
Enter your choice (rock, paper, or scissors): scissors
The computer chose: scissors
It's a tie!

Do you want to play? (yes/no): yes
Enter your choice (rock, paper, or scissors): rock
The computer chose: paper
You lose!

Do you want to play? (yes/no): yes
Enter your choice (rock, paper, or scissors): scissors
The computer chose: scissors
It's a tie!

Do you want to play? (yes/no): yes
Enter your choice (rock, paper, or scissors): scissors
The computer chose: paper
You win!

Do you want to play? (yes/no): no