ROCK, PAPER, SCISSORS

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OVERVIEW OF THE GAME

- The game is played with three possible hand signals that represent a rock, paper, and scissors.

- The rock is a closed fist; paper is a flat hand with fingers and thumb extended and the palm facing downward; and scissors is a fist with the index and middle fingers fully extended toward the opposing player.

- Rock wins against scissors; paper wins against rock; and scissors wins against paper.

- If both players throw the same hand signal, it is considered a tie, and play resumes until there is a clear winner.

PYTHON METHODS USED

- Import Random

- A list containing values of rock, paper, and scissors

- A while loop

- If/Elif/Else statements

- The function input() and random.choice()

- Continue and Break

Overview of Program

```python
import random

user_score=0
cpu_score=0

while True:
    print()
    user_action=input("Rock, Paper, or Scissors? ").lower()
    while user_action!="rock" and user_action!="paper" and user_action!="scissors":
        user_action=input("Invalid input, please try again: ").lower()

    random_num=random.randint(0,2)
    if random_num==0:
        cpu_action="rock"
    elif random_num==1:
        cpu_action="paper"
    elif random_num==2:
        cpu_action="scissors"

    print()
    print("Your choice: ", user_action)
    print("Computer's choice: ", cpu_action)
    print()

    if user_action=="rock":
        if cpu_action=="rock":
            print("It's a tie!!")
        elif cpu_action=="paper":
            print("You lost!")
            cpu_score+=1
        elif cpu_action=="scissors":
            print("You win!!")
            user_score+=1
    elif user_action=="paper":
        if cpu_action=="paper":
            print("It's a tie!!")
        elif cpu_action=="rock":
            print("You win!!")
            user_score+=1
        elif cpu_action=="scissors":
            print("You lost!")
            cpu_score+=1
    elif user_action=="scissors":
        if cpu_action=="scissors":
            print("It's a tie!!")
        elif cpu_action=="rock":
            print("You lost!")
            cpu_score+=1
        elif cpu_action=="paper":
            print("You win!!")
            user_score+=1

    print("You have",user_score,"wins.")
    print("The computer has",cpu_score,"wins.")
    print()

    repeat=input("Play again? (Y/N) ").lower()
    while repeat!="n" and repeat!="y":
        repeat=input("Invalid input, please try again: ").lower()

    if repeat=="n":
        break

    print("\n-------------------------\n")
```

- Import random
- While loop
- List containing rock, paper and scissors
- User input
- If/Elif/Else statements
- Print statements

```python
import random

user_score=0
cpu_score=0

while True:
    print()
    user_action=input("Rock, Paper, or Scissors? ").lower()
    while user_action!="rock" and user_action!="paper" and user_action!="scissors":
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    random_num=random.randint(0,2)
    if random_num==0:
        cpu_action="rock"
    elif random_num==1:
        cpu_action="paper"
    elif random_num==2:
        cpu_action="scissors"

    print()
    print("Your choice: ", user_action)
    print("Computer's choice: ", cpu_action)
    print()
```

- If/Elif/Else statements
- Print statements
- CPU and User tallies

```python
if user_action=="rock":
    if cpu_action=="rock":
        print("It's a tie!!")
    elif cpu_action=="paper":
        print("You lost!")
        cpu_score+=1
    elif cpu_action=="scissors":
        print("You win!!")
        user_score+=1
elif user_action=="paper":
    if cpu_action=="paper":
        print("It's a tie!!")
    elif cpu_action=="rock":
        print("You win!!")
        user_score+=1
    elif cpu_action=="scissors":
        print("You lost!")
        cpu_score+=1
elif user_action=="scissors":
    if cpu_action=="scissors":
        print("It's a tie!!")
    elif cpu_action=="rock":
        print("You lost!")
        cpu_score+=1
    elif cpu_action=="paper":
        print("You win!!")
        user_score+=1
```

- Print statements
- While loop
- User input
- Break

```python
print("You have",user_score,"wins.")
print("The computer has",cpu_score,"wins.")
print()

repeat=input("Play again? (Y/N) ").lower()
while repeat!="n" and repeat!="y":
    repeat=input("Invalid input, please try again: ").lower()


if repeat=="n":
    break

print("\n--------------------------\n")
```

Sample outputs

```
Rock, Paper, or Scissors? paper

Your choice:   paper
Computer's choice:   paper

It's a tie!!
You have 0 wins.
The computer has 0 wins.

Play again? (Y/N) y

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Rock, Paper, or Scissors? paper

Your choice:   paper
Computer's choice:   scissors

You lost!
You have 0 wins.
The computer has 1 wins.

Play again? (Y/N) n
```