

```
# File: Project1.py
# Student: Anusha Mittal
# UT EID: am98968
# Course Name: CS303E
#
# Date: 27th February 2023
# Description of Program: A game of rock paper scissors between the user and the
computer. Also provides statistics at the end.
```

```
import random
```

```
GOODBYE_MESSAGE = "Thanks for playing. Goodbye!"
```

```
play = 0
play1 = 0
```

```
def main():
    totalGames = 0
    wins = 0
    losses = 0
    draws = 0
    play1 = "0"
    while (play1 != '1' and play1 != '2' and play1 != '3' and play != '4') :
        play1 = input("Choose your play: \n Enter 1 for rock; \n Enter 2 for paper;
\n Enter 3 for scissors; \n Enter 4 to exit: ")
        compPlay = machinePlay()
        if(play1 == '4'):
            print(printStats(totalGames, wins, losses, draws))
            print("Thanks for playing. Goodbye!")
            quit()
        print("You played", playerPlay(play1) ,"; your opponent played",
compPlay,"")
        if defeats(playerPlay(play1),compPlay) == 'draw':
            print ("There's no winner. Try again!")
            play1 = '0'
            draws += 1
            totalGames += 1

        elif defeats(playerPlay(play1),compPlay) == 'won':
            print ("Congratulations, you won!")
            play1 = '0'
            wins += 1
            totalGames += 1

        elif defeats(playerPlay(play1),compPlay) == 'lose':
            print ("Sorry, you lost!")
            play1 = '0'
            losses += 1
            totalGames += 1

        elif defeats(playerPlay(play1),compPlay) == 'illegal':
            print('Illegal play entered. Try again!')
            play1 = '0'

        elif defeats(playerPlay(play1),compPlay) == "exit":
            if totalGames == 0:
```

```

        print ("No games were completed.")
        print (GOODBYE_MESSAGE)
        quit()
    else:
        print(printStats(totalGames, wins, losses, draws ))
        print(GOODBYE_MESSAGE)
        quit()

```

```

def machinePlay ():
#The machine chooses one of the three moves randomly.
    play = random.choice(["rock", "paper", "scissors"])
    return play

```

```

def playerPlay (play):
    play1 = 0
    if (play == '1'):
        play1 = 'rock'
    elif (play == '2'):
        play1 = 'paper'
    elif (play == '3'):
        play1 = 'scissors'

    return (play1)

```

```

def defeats( play, play1 ):

    draws = 0
    if (play == play1):
        return ('draw')

    elif (play == 'rock' and play1 == 'paper'):
        return ('lose')

    elif (play == 'paper' and play1 == 'scissors'):
        return ('lose')

    elif (play == 'scissors' and play1 == 'rock'):
        return ('lose')

    elif (play == 'paper' and play1 == 'rock'):
        return ('won')

    elif (play == 'scissors' and play1 == 'paper'):
        return ('won')

    elif (play == 'rock' and play1 == 'scissors'):
        return ('won')

    elif (play == '4'):
        return ('exit')

```

```
else:  
    return ('illegal')
```

```
def printStats( totalGames, wins, losses, draws ):  
    print("Game statistics:")  
    print("Games played:",totalGames,"")  
    print("You won::",wins,"")  
    print("You lost: ",losses,"")  
    print("No winner:",draws,"")  
    return ""  
main()
```