Task 1.5 Develop the Application

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#This software is developed by: Joshua Panettieri

#Date: 15th September 2022 Time:

#File Name: Rock\_Paper\_Scissors\_V3.py Version: 3-0

import random

from datetime import datetime

#Create classes

class Players:

    def \_\_init\_\_(self, firstName, lastName, rounds, selection):

        self.firstName = firstName

        self.lastName = lastName

        self.rounds = rounds

        self.selection = selection

class Selection:

    def \_\_init\_\_(self,type, win, lose, tie):

        self.type = type

        self.win = win

        self.lose = lose

        self.tie = tie

#Convert number choice to string

def selectionConverter(number):

    if number == 4:

        number = randomCalculation

    if number == 1:

        return "rock"

    elif number == 2:

        return "paper"

    elif number == 3:

        return "scissors"

#Set variables

randomCalculation = random.randint(1,3)

roundCounter = 1

rock = Selection ("rock", "scissors", "paper", "rock")

paper = Selection ("paper", "rock", "scissors", "paper")

scissors = Selection("scissors", "paper", "rock", "scissors")

#Open or create a file for the results to be stored

with open(r'C:\Users\Joshu\OneDrive\Joshua\Programming course\ICTPRG430\_Apply introductory object-oriented language skills\Task 5\record.txt', 'a') as record:

#Check if the player needs instructions

    print("Welcome to our game of Rock, Paper, Scissors")

    instructions = input("Do you require instructions? y/n ")

    if instructions.lower() == "y":

        print("""Each player makes a selection, then depending on the selection made:

        The Rock beats the Scissors,

        The Scissors beats the Paper,

        The Paper beats the Rock,

        If both players make the same selection then the game is a tie""")

#Main loop

#Find out the player details

    player1 = Players(input("What is your First name Player 1? "), input("What is your Last name Player 1? "), input("How many rounds do you want to play? "), "")

    player2 = Players(input("What is your First name Player 2? "), input("What is your Last name Player 2? "), player1.rounds, "")

#Start game loop

    while roundCounter <= int(player1.rounds):

#Have players make their selections

        player1 = Players(player1.firstName, player1.lastName, player1.rounds, input(str(player1.firstName) + " what is your selection, Choose 1 for Rock, Choose 2 for Paper, Choose 3 for Scissors or Choose 4 for Random selection? "))

        player2 = Players(player2.firstName, player2.lastName, player1.rounds, input(str(player2.firstName) + " what is your selection, Choose 1 for Rock, Choose 2 for Paper, Choose 3 for Scissors or Choose 4 for Random selection? "))

#Winner Decision Dictionary

        winner = {

            rock.type : {rock.tie:"It's a tie!", rock.lose:"The Paper beats the Rock! "+ str(player2.firstName) +" wins", rock.win: "The Rock beats the Scissors! "+ str(player1.firstName) +" wins"},

            paper.type :{paper.win:"The Paper beats the Rock! "+ str(player1.firstName) +" wins", paper.tie:"It's a tie!", paper.lose :"The Scissors beats the Paper! "+ str(player2.firstName) +" wins"},

            scissors.type:{scissors.lose:"The Rock beats the Scissors! "+ str(player2.firstName) +" wins", scissors.win:"The Scissors beats the Paper! "+ str(player1.firstName) +" wins", scissors.tie:"It's a tie!"},

            }

#Convert selections

        try:

            player1Choice = selectionConverter(int(player1.selection))

            player2Choice = selectionConverter(int(player2.selection))

#Reveal and record the winner

            print(str(player1.firstName + " selected " + player1Choice))

            print(str(player2.firstName + " selected " + player2Choice))

            print(winner[player1Choice][player2Choice])

            record.write("In round " + str(roundCounter) +" " + str(player1.firstName) +" " + str(player1.lastName) + " selected " + str(player1Choice)+ " " + str(player2.firstName) +" "+ str(player2.lastName) + " selected " + str(player2Choice) +" "+ str(winner[player1Choice][player2Choice]) + " " + str(datetime.now()) +'\n')

            roundCounter +=1

            randomCalculation = random.randint(1,3)

        except:

            print("An invalid selection was made, try again.")

#Show the results

results = input("Would you like to see the Winners records? y/n ")

if results == "y":

    record = open(r'C:\Users\Joshu\OneDrive\Joshua\Programming course\ICTPRG430\_Apply introductory object-oriented language skills\Task 5\record.txt', 'r')

    print(record.read())

    print("Thank you for playing!")

else:

    print("Thank you for playing!")