**Objective:**

* Write a program to practice and demonstrate your Python programming skills.
* Your program will help you to complete parts of the summative task.
  + This pre-work assignment will only count for minor marks.
* The course summative will include questions related to this programming task.
  + The summative questions will count for major marks.

**Instructions:**

Choose and complete ***only one*** of the following programming options:

Option 1: Rock- Paper-Scissors Game

Write a program to implement the classic Rock-Paper-Scissors game where you play against the computer. Your program must include the following:

1. Code to read your player move from the console input [✔]
2. Code to check that your player move is valid [✔]
3. Code to make a random computer move (See Mr. Nestor for help with this) [✔]
4. Code to determine the winner and print the result to the console output [✔]
5. You must include at least one "IF ... THEN ..." statement [✔]
6. You must include at least one "FOR LOOP" [✔]
7. You must include at least one user defined function [✔]

Option 2: Tic-Tac-Toe Game

Write a program to implement the classic Tic-Tac-Toe game where you play against the computer. Your program must include the following:

1. Code to read your player move from the console input
2. Code to check that your player move is valid
3. Code to make a random computer move (See Mr. Nestor for help with this)
4. Code to update the game board (moves made so far)
5. Code to print the game board to the console output
6. Code to repeat steps "a" to "e" to play several moves
7. NOTE: You do not need to include code that determines a winner
8. You must include at least one "IF ... THEN ..." statement
9. You must include at least one "FOR LOOP"
10. You must include at least one user defined function

Option 3: Turtle Design/Pattern

Write a program to draw an interesting Python Turtle design/pattern to the computer display. Your program must include the following:

1. Your design / pattern should have some user selectable variable for your pattern (e.g. Type of shapes, number of shapes, size of shapes, etc.)
2. Code to read the user selectable variable from the console input
3. Code to check that the user selectable variable is valid
4. Code to create the pattern and print the result to the turtle (console) output
5. You must include at least one "IF ... THEN ..." statement
6. You must include at least one "FOR LOOP"
7. You must include at least one user defined function

**Option 1: Rock- Paper-Scissors Game**

from random import randint

#this is a list of options to play

#you can play either rock, paper, or scissors

#the computer picks a random one

t = ["Rock", "Paper", "Scissors"]

#this assigns a random option to the computer

#randint lets you pick a random value from a low number to a high one

computer = t[randint(0,2)]

def results (player,computer):

if player == computer:

     print("Ack, you tied with the computer! They picked", computer)

elif player == "Rock":

  if computer == "Paper":

    print("You lose! Your opponent picked", computer)

  else:

    print("You win! Congrats! Your opponent picked", computer)

elif player == "Paper":

  if computer == "Scissors":

    print("You lose! Your opponent picked", computer)

  else:

    print("You win! Congrats! Your opponent picked", computer)

elif player == "Scissors":

  if computer == "Rock":

    print("You lose! Your opponent picked", computer)

  else:

    print("You win! Congrats! Your opponent picked", computer)

else:

  print("That ain’t it, chief. Check your spelling and try again!")

player = False

while player == False:

#set player to True

userInput = input("Rock, Paper or Scissors? ")

computer = t[randint(0,2)]

results(userInput,computer)

for i in range(3):

  answer = input("Want to play again? (Yes/No) ")

  if answer == 'Yes':

    player = False

    break;

  elif answer == 'No':

print(“Alright, stay fresh!”)

    player = True

    break;

  else:

    print("Invaild entry "+ str(i))

  if i>=2:

    player= True

    break