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1CPE-A

import math

import random

import string

def helloWorld():

print("You selected Hello World Program \n")

message = "Hello World"

print(message)

def arithmetic():

print("You selected Arithmetic Program \n")

intInput1 = float(input("Please input first number: "))

intInput2 = float(input("Please input second number: "))

sumInt = intInput1 + intInput2

diff = intInput1 - intInput2

prod = intInput1 \* intInput2

quo = intInput1 / intInput2

print(f"The sum is {sumInt}")

print(f"The difference is {diff}")

print(f"The product is {prod}")

print(f"The quotient is {quo}")

def positiveCheck():

print("You selected Positive or Negative Program \n")

userInput = float(input("Please input a number: "))

if userInput >= 0:

print(f"{userInput} is a positive number")

elif userInput < 0:

print(f"{userInput} is a negative number")

else:

print("error")

def feetToInch():

print("You selected Feet to Inch Conversion \n")

userInput = float(input("Please input a measurement in ft: "))

conversion = userInput \* 12

print(f"{userInput}ft is equivalent to {conversion}")

def circumference():

userInput = float(input("Please input the radius: "))

circumference = 2 \* math.pi \* userInput

print(f"The circumference is {circumference:.2f}")

def fibonnacci():

print("You selected Fibonacci Sequence Program \n")

terms = int(input("Please input the number of terms: "))

first = 0

second = 1

print(first, second, end=" ")

for count in range(2, terms):

c = first + second

print(c, end=" ")

first = second

second = c

def passwGen():

print("You selected Password Generation Program \n")

passLenInput = int(input("Please input the length of your password: "))

char = string.ascii\_letters + string.digits + string.punctuation

randString = ''.join(random.choices(char, k=passLenInput))

print(randString)

def reverse():

print("You selected Reverse String Program \n")

string = input("Please input anything: ")

print(string[::-1])

def calculator():

print("You selected Calculator Program \n")

intInput1 = float(input("Please enter first number: "))

intInput2 = float(input("Please enter second number: "))

operator = input("Select an operator (+, -, \*, /): ")

if operator == "+":

sumInt = intInput1 + intInput2

print(sumInt)

elif operator == "-":

diff = intInput1 - intInput2

print(diff)

elif operator == "\*":

prod = intInput1 \* intInput2

print(prod)

elif operator == "/":

quo = intInput1 / intInput2

print(quo)

else:

print("error")

def userSelectFuntion():

print("LABORATORY EXERCISE\n")

print("Available Programs: \

\n1. Hello World \

\n2. Arithmetic\

\n3. Positive or Negative Integer \

\n4. Feet to Inch Conversion\

\n5. Circumference\

\n6. Fibonacci Sequence\

\n7. Random Password Generator\

\n8. String Reverse\

\n9. Calculator \n")

userSelect = int(input("Please select a number corresponding to the program you want to run: "))

if userSelect == 1:

helloWorld()

elif userSelect == 2:

arithmetic()

elif userSelect == 3:

positiveCheck()

elif userSelect == 4:

feetToInch()

elif userSelect == 5:

circumference()

elif userSelect == 6:

fibonnacci()

elif userSelect == 7:

passwGen()

elif userSelect == 8:

reverse()

elif userSelect == 9:

calculator()

else:

print("Error try again")

userSelectFuntion()