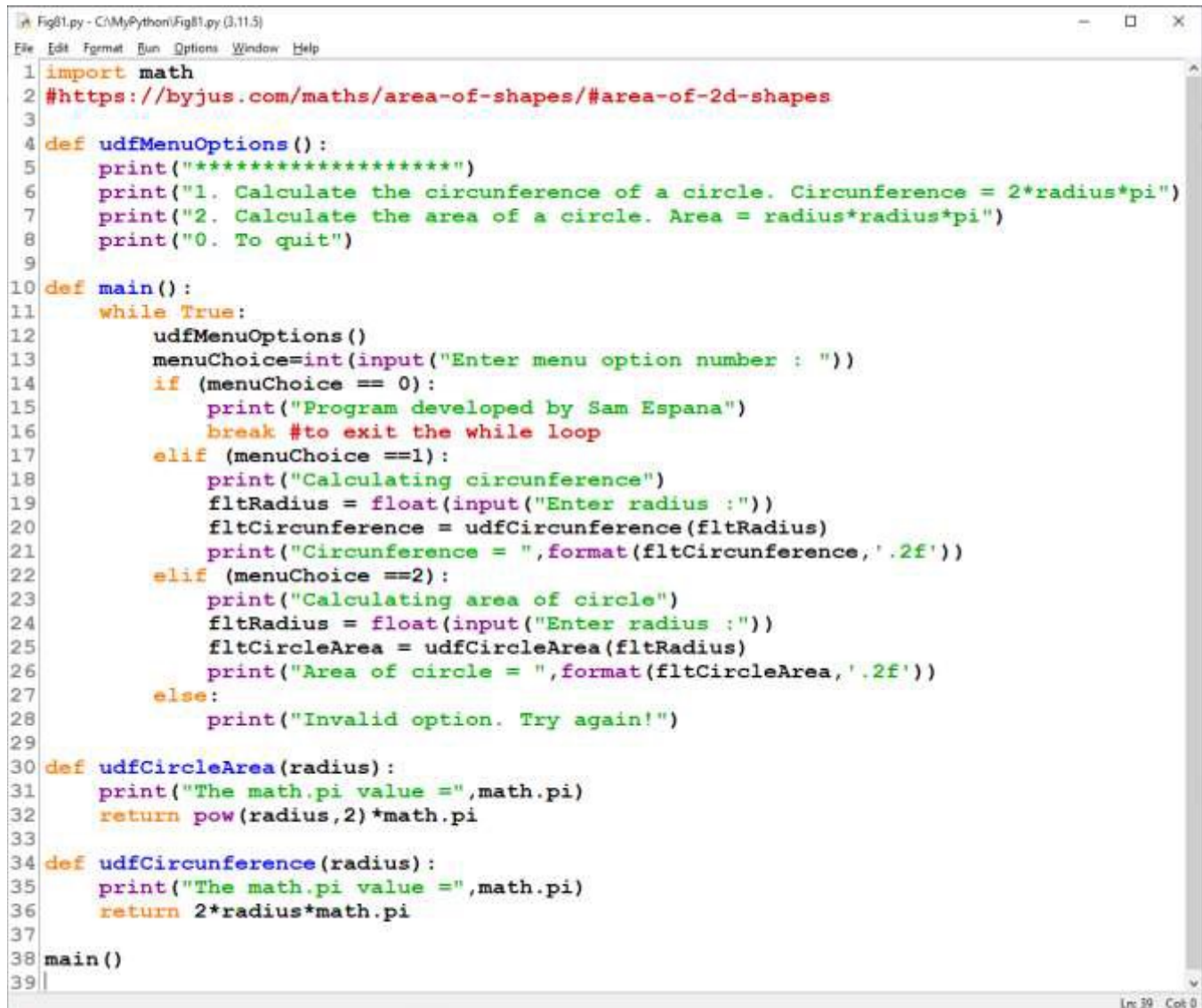


ITEC 1505 Fundamentals of Programming with Python
Fall 2023
Project #4 – Due Friday, October 27, 2023

Name:

STEPS

- 1) Launch Python IDLE. Select File, New File (Ctrl + N). Then, type the program below.



```
1 import math
2 #https://byjus.com/maths/area-of-shapes/#area-of-2d-shapes
3
4 def udfMenuOptions():
5     print("*****")
6     print("1. Calculate the circumference of a circle. Circunference = 2*radius*pi")
7     print("2. Calculate the area of a circle. Area = radius*radius*pi")
8     print("0. To quit")
9
10 def main():
11     while True:
12         udfMenuOptions()
13         menuChoice=int(input("Enter menu option number : "))
14         if (menuChoice == 0):
15             print("Program developed by Sam Espana")
16             break #to exit the while loop
17         elif (menuChoice ==1):
18             print("Calculating circumference")
19             fltRadius = float(input("Enter radius :"))
20             fltCircunference = udfCircunference(fltRadius)
21             print("Circunference = ",format(fltCircunference,'.2f'))
22         elif (menuChoice ==2):
23             print("Calculating area of circle")
24             fltRadius = float(input("Enter radius :"))
25             fltCircleArea = udfCircleArea(fltRadius)
26             print("Area of circle = ",format(fltCircleArea,'.2f'))
27         else:
28             print("Invalid option. Try again!")
29
30 def udfCircleArea(radius):
31     print("The math.pi value =",math.pi)
32     return pow(radius,2)*math.pi
33
34 def udfCircunference(radius):
35     print("The math.pi value =",math.pi)
36     return 2*radius*math.pi
37
38 main()
39
```

- 2) Run and test the above program for all menu options above (1-3).
- 3) Add a function to calculate the area of a **trapezoid** using the formula **Area = (a+b)*h/2**
- 4) Run your program testing for **a =4, b=4, and h =4**
- 5) Take a screenshot of your output and Save as **Area.jpg**

Note: Upload both your Python file (Project4.py) and screenshot file (Area.jpg) to D2L for grading

EXTRA CREDIT (20 points)

Replace if/elif with a switch