Python Programming for All

Lab 0

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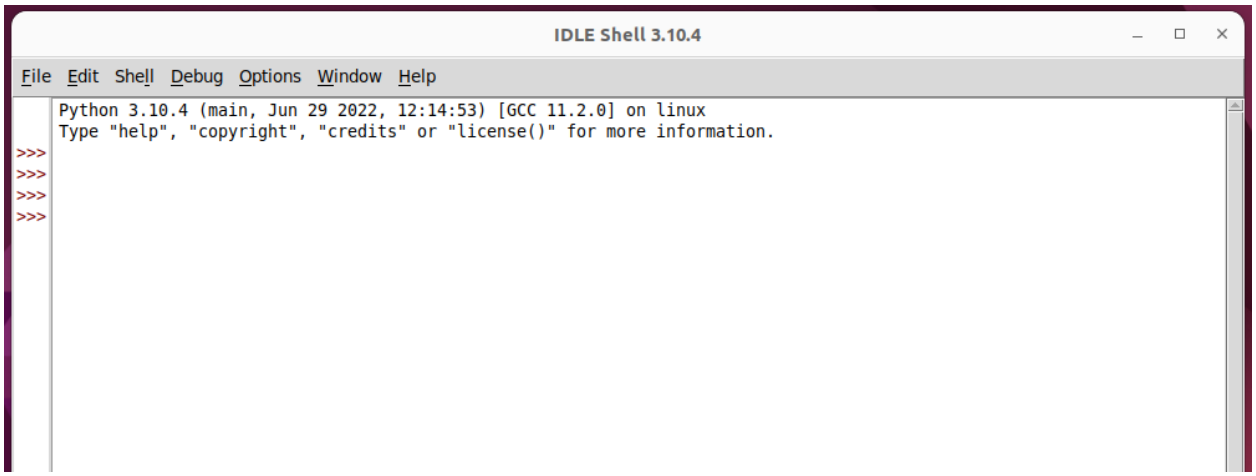
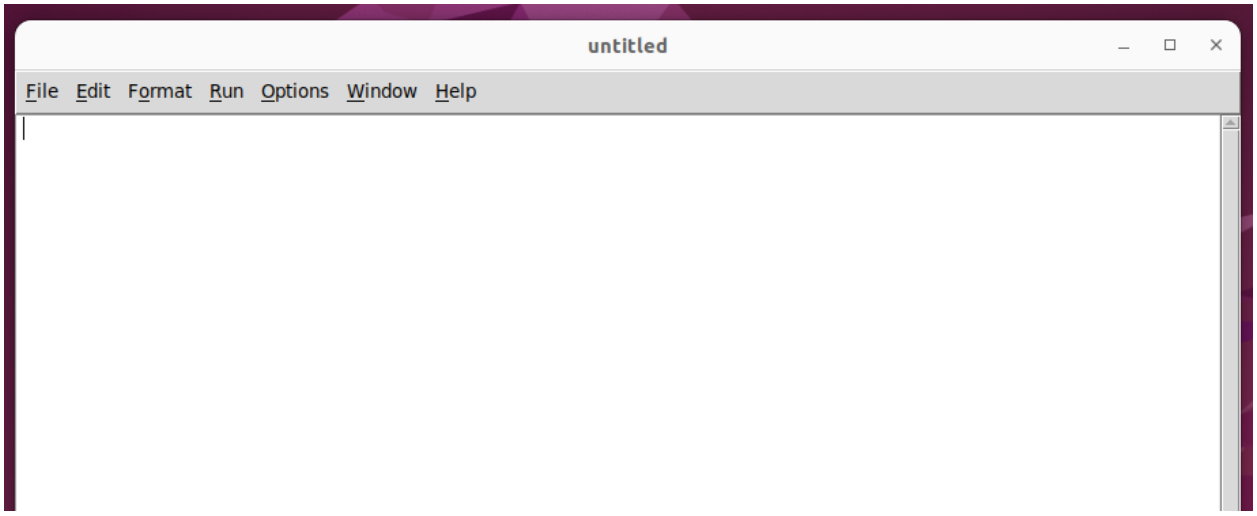
REVIEW OF THE BASICS

Before we go any further, make sure that the basic concepts are in place. If you have any problems with the following basic concepts and operations, it will be impossible for you to follow the class. For this reason, even if they seem too simple, it is vital that you understand and perform correctly the following operations.

1. Open up the Python window by running the IDLE program. This is the interactive window. It says Python Shell in the title of the window. What we write in this window is not exactly a “program”, but individual commands; this is more like a scratch paper to try things. When we say a program, we mean a set of Python statements and commands that we write in a new window and save as a file (with .py extension).



2. Open a new window by selecting New Window from the File menu. We will write our program here.



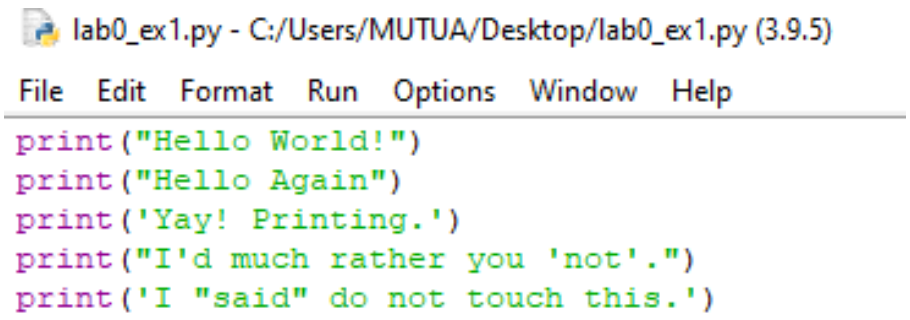
3. Write the following Python statements in the new window (don't copy paste, write them out by hand):

```
print("Hello World!")
print("Hello Again")
print('Yay! Printing.')
print("I'd much rather you 'not'.")
print('I "said" do not touch this.')
```

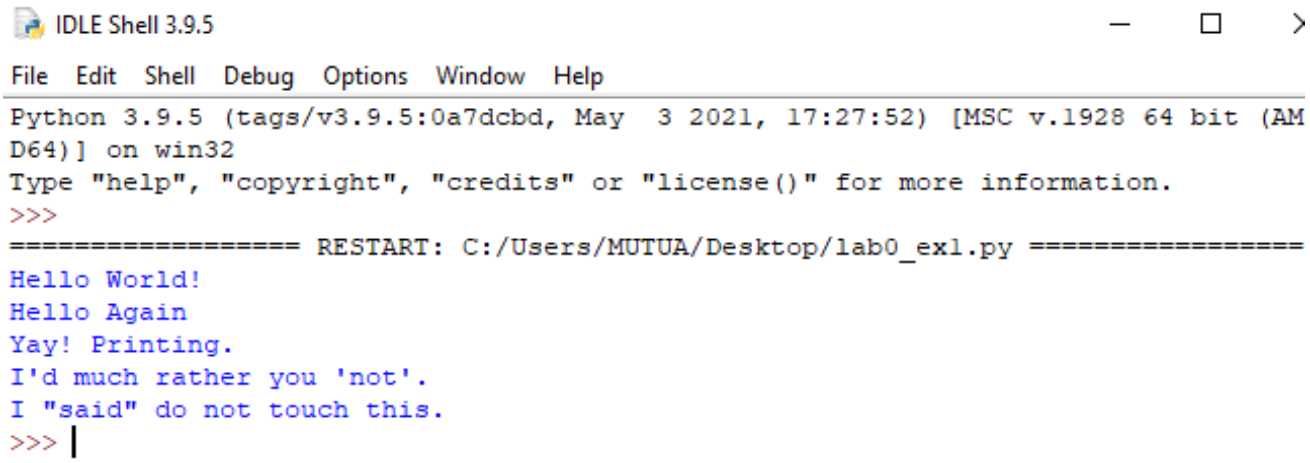
```
print("I'd much rather you 'not'.")

print('I "said" do not touch this.')
```

4. Select Save from the File menu and save your program in a file as "**lab0-ex1.py**".



5. Run the program by selecting Run Module from the Run menu (or you can press F5). The output of the program will appear in the interactive window (Python Shell).



6. Take the "print" statements inside a function so that your program becomes as shown below. First, you should add the line "`def main():`" at the beginning. Then indent each "print" statement towards right using Tab. Finally, add the line "main()" at the end, to call the function. Save the file and run by pressing F5.

lab0_ex1.py - C:/Users/MUTUA/Desktop/lab0_ex1.py (3.9.5)

File Edit Format Run Options Window Help

```
def main():
    print("Hello World!")
    print("Hello Again")
    print('Yay! Printing.')
    print("I'd much rather you 'not'.")
    print('I "said" do not touch this.')
main()
```

7. Open a new window (File->New Window). Write the program given below, then save as "**lab0_ex2.py**". Run at least 3 times by pressing F5, and try different a,b,c values.

lab0_ex2.py - C:\Users\MUTUA\Desktop\lab0_ex2.py (3.9.5)

File Edit Format Run Options Window Help

```
import math

def introduction_message():
    print("This program prints the roots of a second order equation")
    print("    ax^2 + bx + c = 0")
    print()


def input_and_solve():
    a = int(input("Please enter a: "))
    b = int(input("Please enter b: "))
    c = int(input("Please enter c: "))
    delta = b*b - 4*a*c

    x1 = -b + math.sqrt(delta)
    x2 = -b - math.sqrt(delta)

    print("The Roots are:")
    print("x1 = ", x1)
    print("x2 = ", x2)

def final_message():
    print("Thank you for using this Program...")
    print("--------------------------------")
    print("All Rights Preserved.")

introduction_message()
input_and_solve()
final_message()
```

8. In the interactive window (with title Python Shell) type `introduction_message()` press Enter. Repeat the same for `final_message()` and `input_and_solve()`.