

First steps in Python



Objectives

Beginning to work with Python

- Setup Python working environment
- Execute simple instructions using the Python interpreter
- Implement simple programs using Python IDLE and execute them

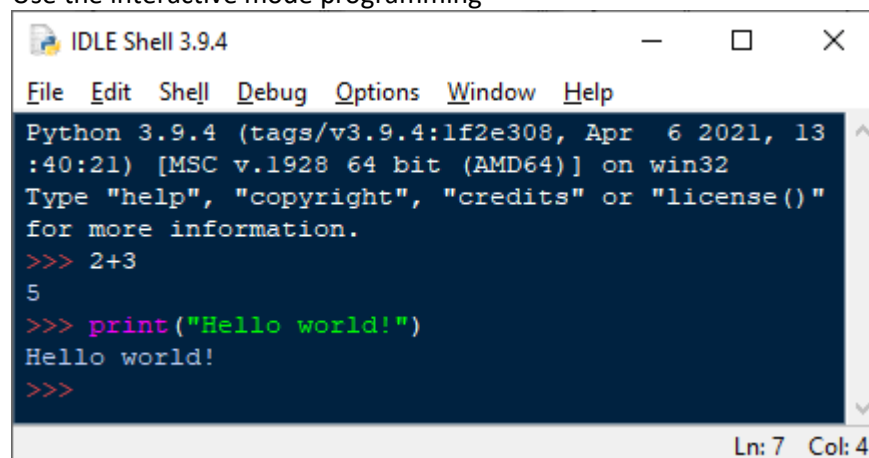


Setup Python working environment

- Download the latest version of Python (3.10.x) from <http://www.python.org/>
- Choose the installer according to your operating system (e.g. Windows x86-64, Ubuntu 22.04.1 LTS, MacOS 10.15.7, etc.)
- Launch the executable file. Check "Add Python 3.10 to PATH" and then select "Customize installation".
- For more instructions on Python installation:
<http://www.youtube.com/watch?v=4Mf0h3HphEA>

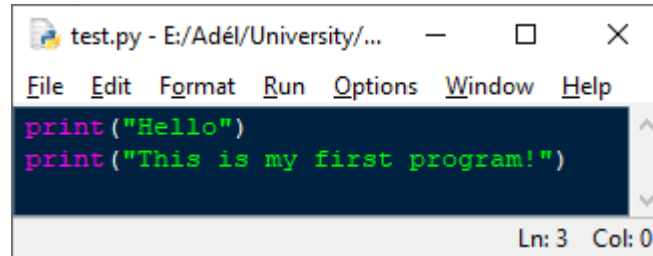
Using the Python interpreter

- IDLE = Integrated DeveLopment Environment
- Launch the IDLE from Start menu/Search Windows
- Try some simple instructions (see example below)
- Use the interactive mode programming



```
Python 3.9.4 (tags/v3.9.4:1f2e308, Apr 6 2021, 13:40:21) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> 2+3
5
>>> print("Hello world!")
Hello world!
>>>
```

- Use the scripting mode programming: *File -> New File...*



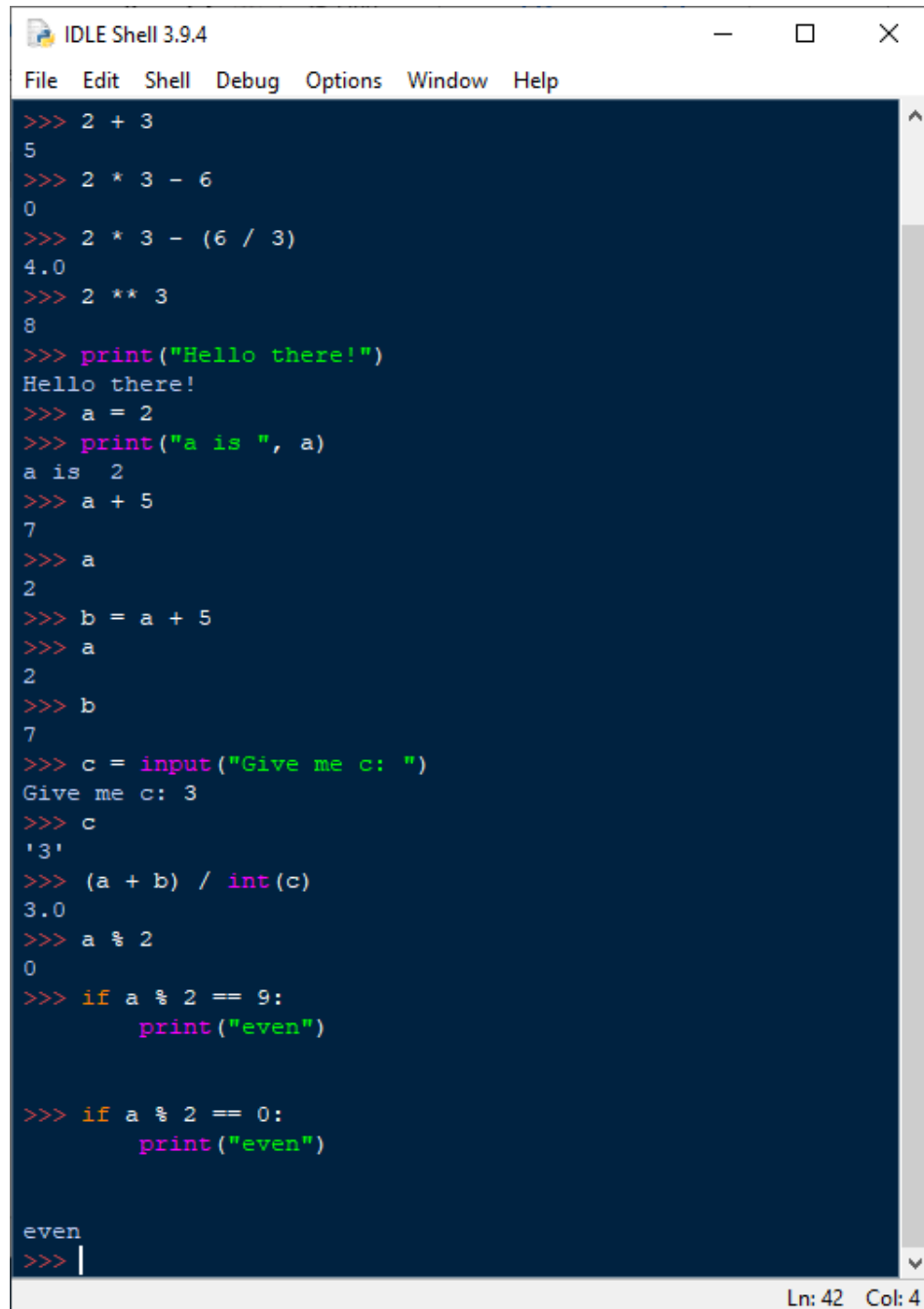
```
test.py - E:/Adel/University/...  
File Edit Format Run Options Window Help  
print("Hello")  
print("This is my first program!")  
Ln: 3 Col: 0
```

To run your code: *Run-> Run module (F5)*



Problem specification

1. Compute the sum of two given numbers.
2. Compute the product of the first n natural numbers.
3. Verify if a given number is perfect number.
Hint: a number is called perfect when the sum of its positive divisors (less than the itself) is equal to the number
e.g. $6 = 1 + 2 + 3$

The image shows a screenshot of the IDLE Shell 3.9.4 window. The window has a menu bar with 'File', 'Edit', 'Shell', 'Debug', 'Options', 'Window', and 'Help'. The main area is a dark blue shell with white text. The code being executed is as follows:

```
>>> 2 + 3
5
>>> 2 * 3 - 6
0
>>> 2 * 3 - (6 / 3)
4.0
>>> 2 ** 3
8
>>> print("Hello there!")
Hello there!
>>> a = 2
>>> print("a is ", a)
a is 2
>>> a + 5
7
>>> a
2
>>> b = a + 5
>>> a
2
>>> b
7
>>> c = input("Give me c: ")
Give me c: 3
>>> c
'3'
>>> (a + b) / int(c)
3.0
>>> a % 2
0
>>> if a % 2 == 9:
    print("even")

>>> if a % 2 == 0:
    print("even")

even
>>> |
```

The status bar at the bottom right indicates 'Ln: 42 Col: 4'.