



New
syllabus
2020-21

Chapter 4
Getting
Started
With python

Informatics Practices
Class XI (As per CBSE Board)

By : Nitin Karsh , PGT (CS) (Montfort School , Ambikapur)



Python Introduction

It is widely used general purpose, high level programming language. Developed by Guido van Rossum in 1991.

It is used for:

software development,
web development (server-side),
system scripting,
Mathematics.

Features of Python



1. **Easy to use** – Due to simple syntax rule
2. **Interpreted language** – Code execution & interpretation line by line
3. **Cross-platform language** – It can run on windows,linux,macinetosh etc. equally
4. **Expressive language** – Less code to be written as it itself express the purpose of the code.
5. **Completeness** – Support wide rage of library
6. **Free & Open Source** – Can be downloaded freely and source code can be modify for improvement



Shortcomings of Python

1. **Lesser libraries** – as compared to other programming languages like c++,java,.net
2. **Slow language** – as it is interpreted languages,it executes the program slowly.
3. **Weak on Type-binding** – It not pin point on use of a single variable for different data type.

Installing Python



Two Steps Only –

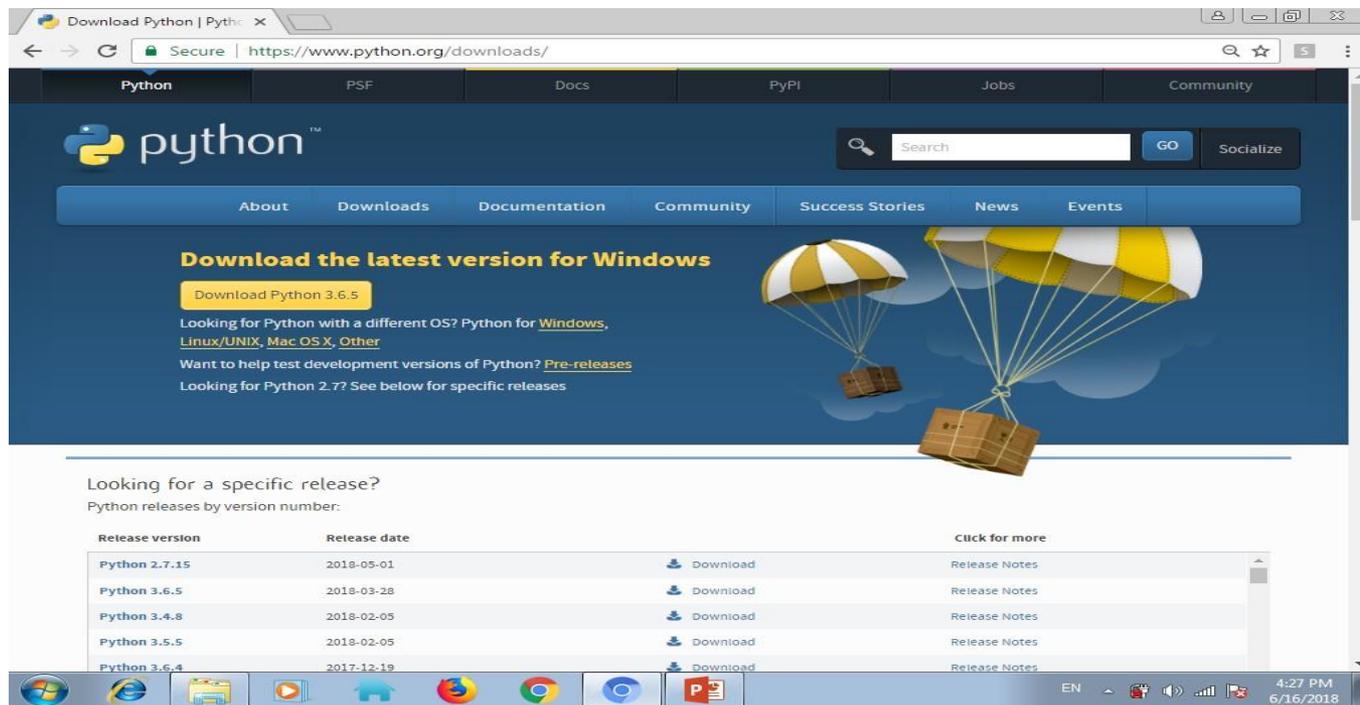
1. Download Python distribution
2. Python installation process

Installing Python

1. Download Python distribution

You can download python distribution from the link given below

<https://www.python.org/downloads/>



The screenshot shows the Python.org website's download page. The main heading is "Download the latest version for Windows" with a prominent "Download Python 3.6.5" button. Below this, there are links for other operating systems: "Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)". There is also a link for "Pre-releases" and a note about Python 2.7 releases. A table lists various Python releases with their version numbers and dates, each with a "Download" link and a "Release Notes" link.

Release version	Release date	Click for more
Python 2.7.15	2018-05-01	Download Release Notes
Python 3.6.5	2018-03-28	Download Release Notes
Python 3.4.8	2018-02-05	Download Release Notes
Python 3.5.5	2018-02-05	Download Release Notes
Python 3.6.4	2017-12-19	Download Release Notes

Note – Download only that python distribution/MSI Installer, which is best suited for the Operating system on which you want to install it.

Installing Python

2. Python installation process

1. Double-click the icon labeling the file <version>.exe
Popup window will appear



Click on Run option

Installing Python

2. Setup popup window will appear



If the Python Installer finds an earlier version of Python installed on your computer, the Install Now message will instead appear as Upgrade Now (and the checkboxes will not appear).

Highlight the Install Now (or Upgrade Now) message, and then click it

Visit : python.mykvs.in for regular updates

Installing Python

3. User Account Control pop-up window will appear



Click the Yes button.

Installing Python

4. A new Python <version> Setup pop-up window will appear with a Setup Progress message and a progress bar.



Installing Python

5. Soon, a new Python <version> Setup pop-up window will appear with a Setup was successfully message



Click the close button



How to work in Python

After installation of python ,we can work on it in following ways

- (i) in Interactive mode
- (ii) in Script mode



How to work in Python

(i) in Interactive mode

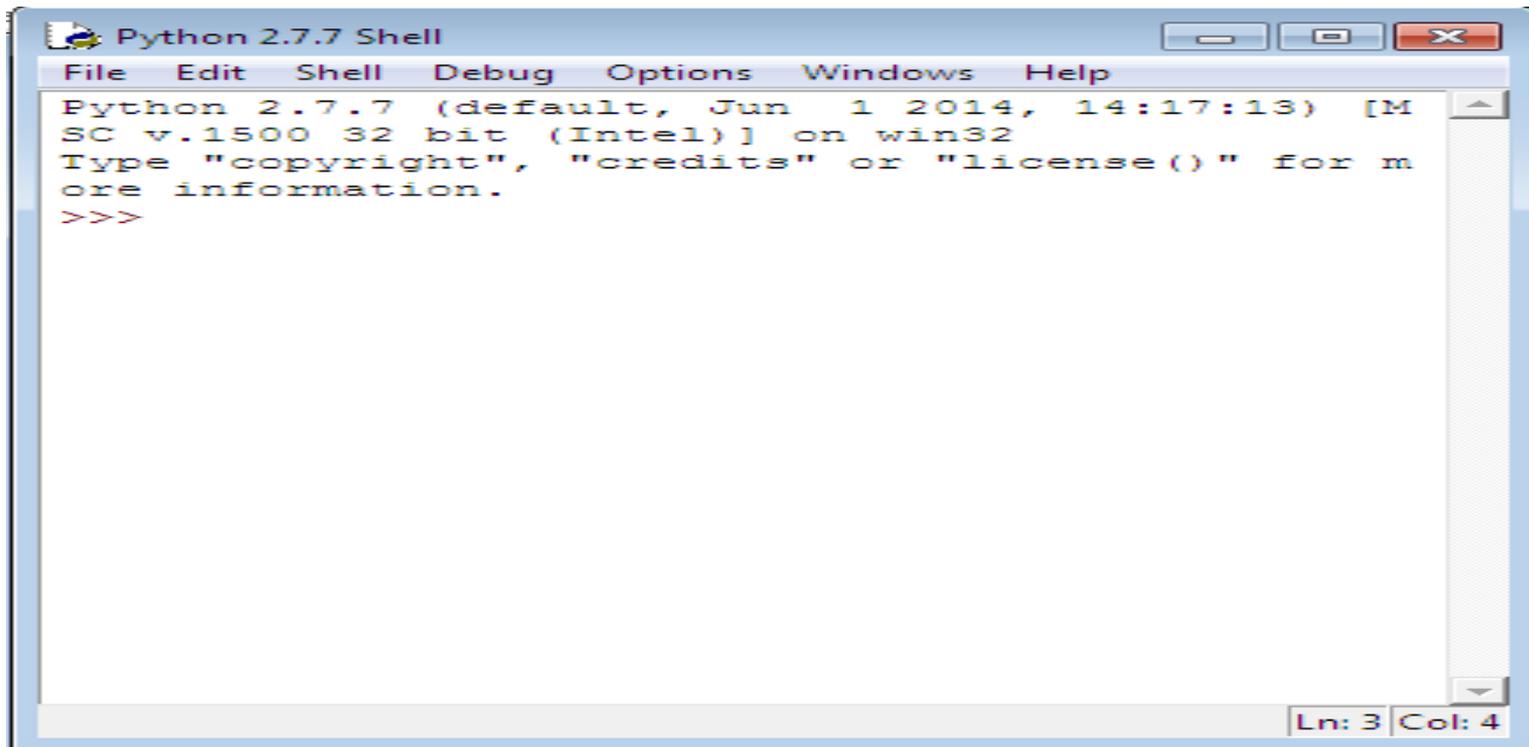
* Search the python.exe file in the drive in which it is installed.

If found double click it to start python in interactive mode

```
C:\Python27\python.exe
Python 2.7.7 <default, Jun 1 2014, 14:17:13> [MSC v.1500 32 bit <Intel>] on win
32
Type "help", "copyright", "credits" or "license" for more information.
>>> _
```

How to work in Python

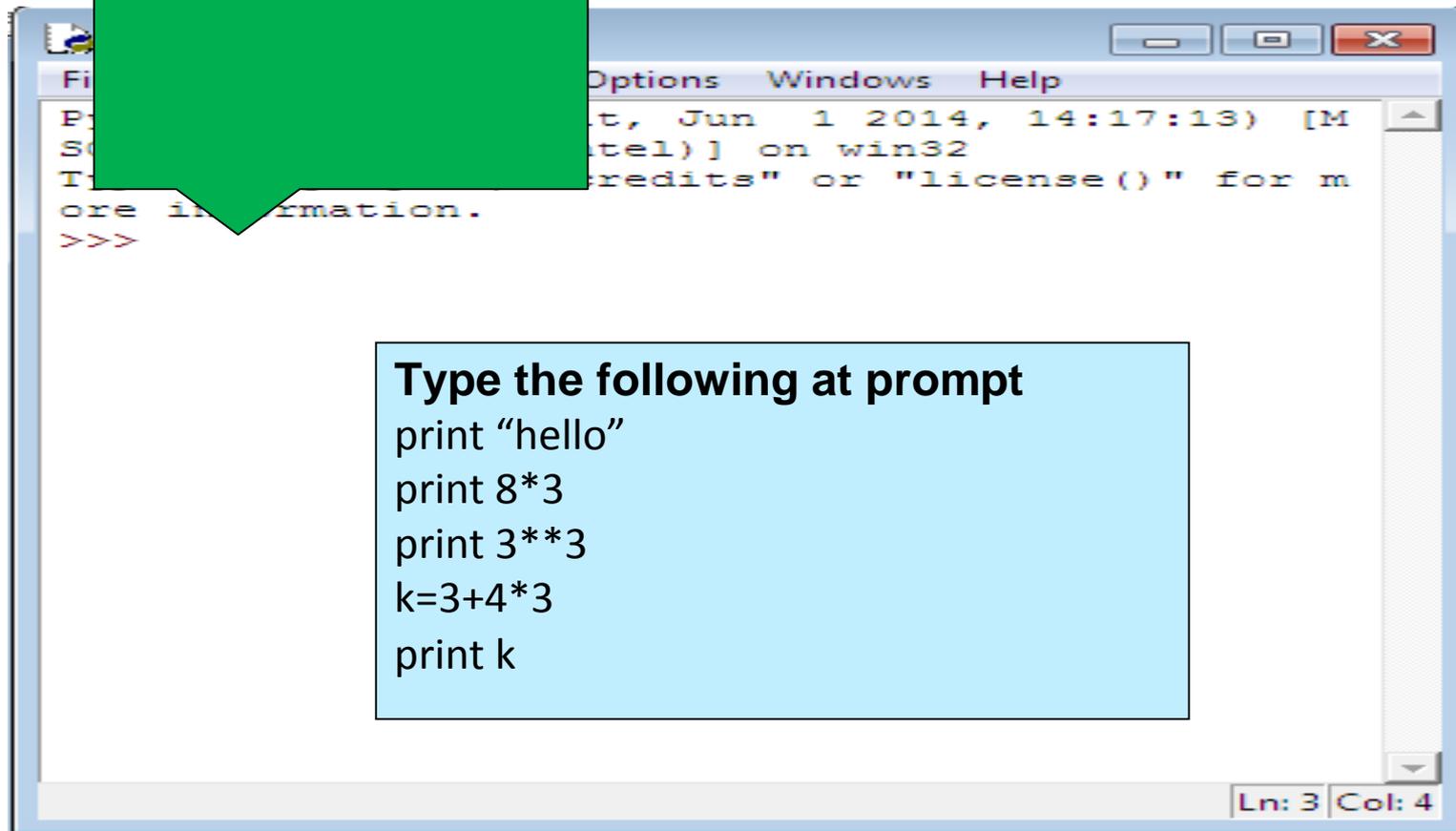
* Click start button -> All programs -> python<version>->IDLE(Python GUI)



```
Python 2.7.7 Shell
File Edit Shell Debug Options Windows Help
Python 2.7.7 (default, Jun 1 2014, 14:17:13) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
```

i How to work in Python

Python command
prompt >>>



```
File Edit Shell Options Windows Help
Python 2.7.6 (tags/Python-2.7.6:Jul 8 2014, 14:17:13) [AMD64] on win32
Type "credits" or "license()" for more
>>>
```

Type the following at prompt

```
print "hello"
print 8*3
print 3**3
k=3+4*3
print k
```

Ln: 3 Col: 4



How to work in Python

(ii) in Script mode

Step 1 (Create program file)

Below steps are for simple hello world program

a. Click Start button->All Programs ->

Python<version>->IDLE

b. Now click File->New in IDLE Python Shell

Now type

```
print "hello"
```

```
print "world"
```

```
print "python is", "object oriented programming lang."
```

c. Click File->Save and then save the file with filename and .py extension



How to work in Python

(ii) in Script mode

Step 2 (Run program file)

- a. Click Open command from IDLE's File menu and select the file you have already saved
- b. Click Run-> Run Module
- c. It will execute all the commands of program file and display output in separate python shell window

Note :- Python comes in 2 flavours – python 2.x and python 3.x . Later one is Backward incompatible language as decided by Python Software foundation(PSF). Mean code written in 2.x will not execute on 3.x . Visit the below link for difference between 2.x & 3.x

<https://www.geeksforgeeks.org/important-differences-between-python-2-x-and-python-3-x-with-examples/>