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Versions (2.7+ vs 3.0+)

Important differences between Python 2.x and Python 3.x with examples:

- Division operator
  Use of floats to get accuracy

- print function
  Use of parenthesis

- Unicode
  Str default

- xrange
  does not exist

- Error Handling

  Use of the ‘as’ clause

Some more commonly used functions and methods that don’t return lists anymore in Python 3:

- zip()
- map()
- filter()
- dictionary’s .keys() method
- dictionary’s .values() method
- dictionary’s .items() method

Available IDEs, Comparison

An IDE (or Integrated Development Environment) is a program dedicated to software development. As the name implies, IDEs integrate several tools specifically designed for software development. These tools usually include:

- An editor designed to handle code (with, for example, syntax highlighting and auto-completion)
- Build, execution, and debugging tools
- Some form of source control

Most IDEs support many different programming languages and contain many more features. The editor available with Python on download is IDLE and is best suited for beginners. Other editors are:

- Eclipse + PyDev
- Sublime Text
- Atom
- GNU Emacs
- Vi / Vim
- Visual Studio
- Visual Studio Code
- PyCharm
- Spyder
- Thonny

Installation of Python.

Installing Python 3.X: The first thing we want to do is install the latest Python distribution, which is **Python 3.X.x**.

We are going to use Python 3 because the most important Python libraries have already been ported to Python 3 and also the next major Django version (2.x) won't support Python 2 anymore. So Python 3 is the way to go.

- Go to www.python.org

- Click on the Python download page, scroll down until you see the download files listed below:

- Pick the right version accordingly to your Windows / Mac distribution.

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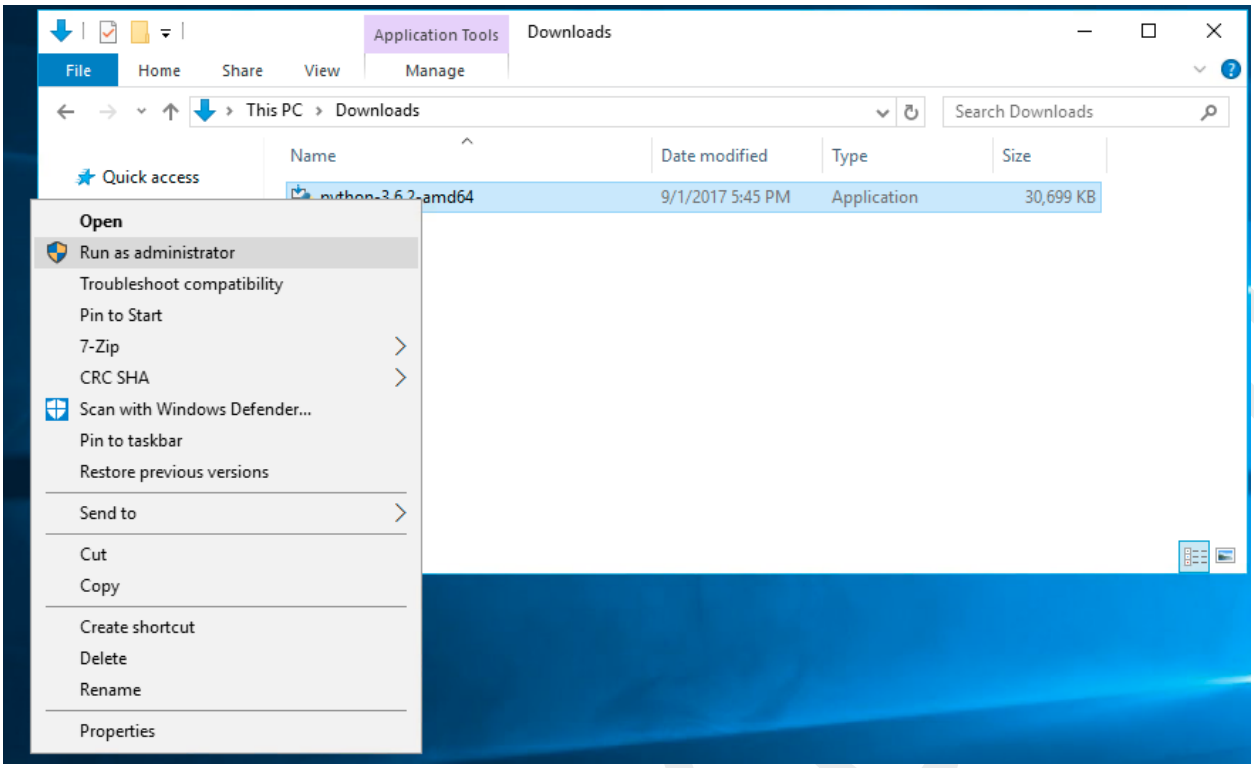
- Go to your Downloads directory, right click on the installer and click on **Run as administrator**.



- Make sure you check the option **Add Python 3.6 to PATH**
- Click on the **Install Now** option.

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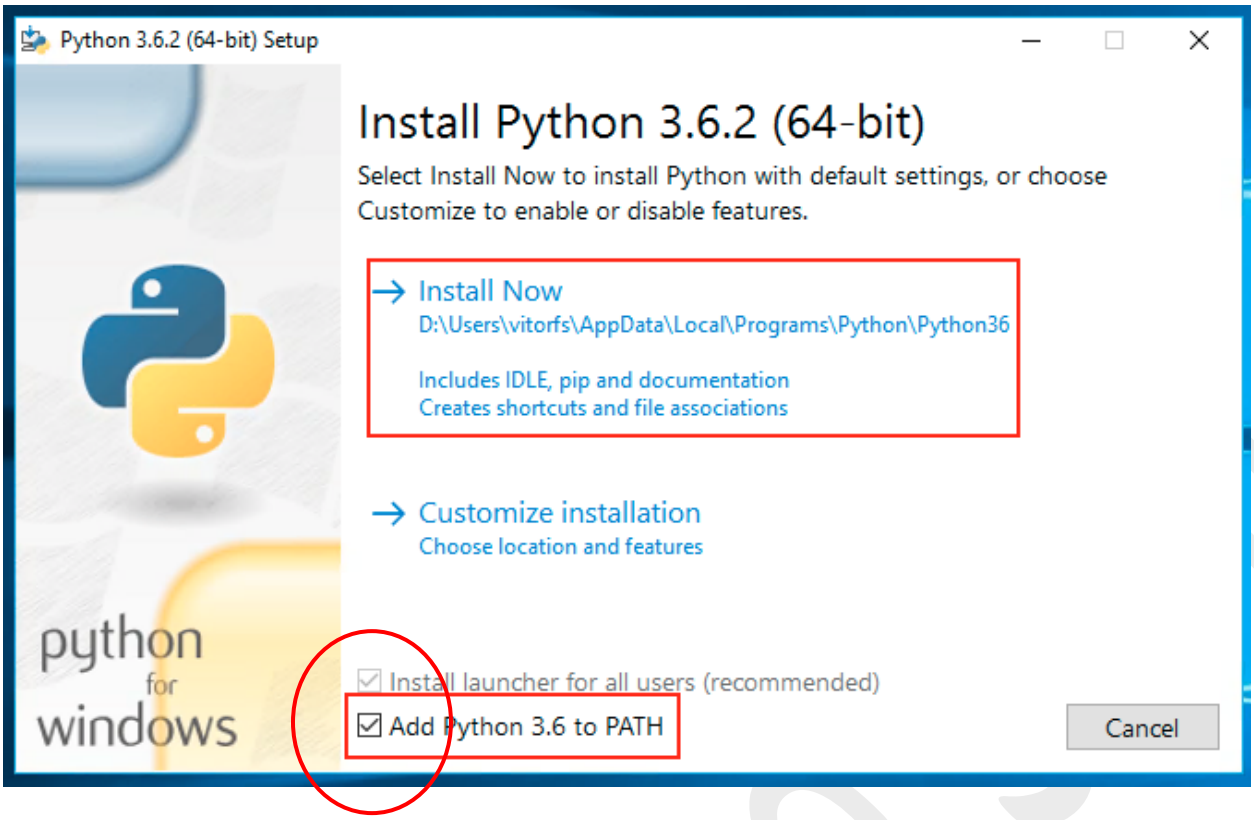

IDLE and the interactive shell.

Typing the word "**python**" at your **system shell prompt** like this begins an interactive Python session; the "%" character at the start of this listing stands for a generic system prompt

The **Python Shell** is where you can explore Python syntax, get interactive help on commands, and debug short programs.

The **graphical Python Shell** (named **I D L E**) also contains a decent text editor that supports Python syntax coloring and integrates with the Python Shell. The three angle brackets, >>>, denote the Python Shell prompt.

Other Editors.

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There are many other editors that can be used to write Python applications like PyCharm and VsCode. We will have a look at them later in the course as it is important to learn to use IDLE first. IDLE is a cross platform editor that is written in Python.

Basic operations on the shell.

Single line expressions.
Single block expressions.

Running the script file.

From the editor you can run a script file by using ‘f5’ function key or the run option from the menu.