Python

INTRODUCTION TO PYTHON

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Outline

- Why Python?
- What is Python?
- Python Applications
- Python Installation

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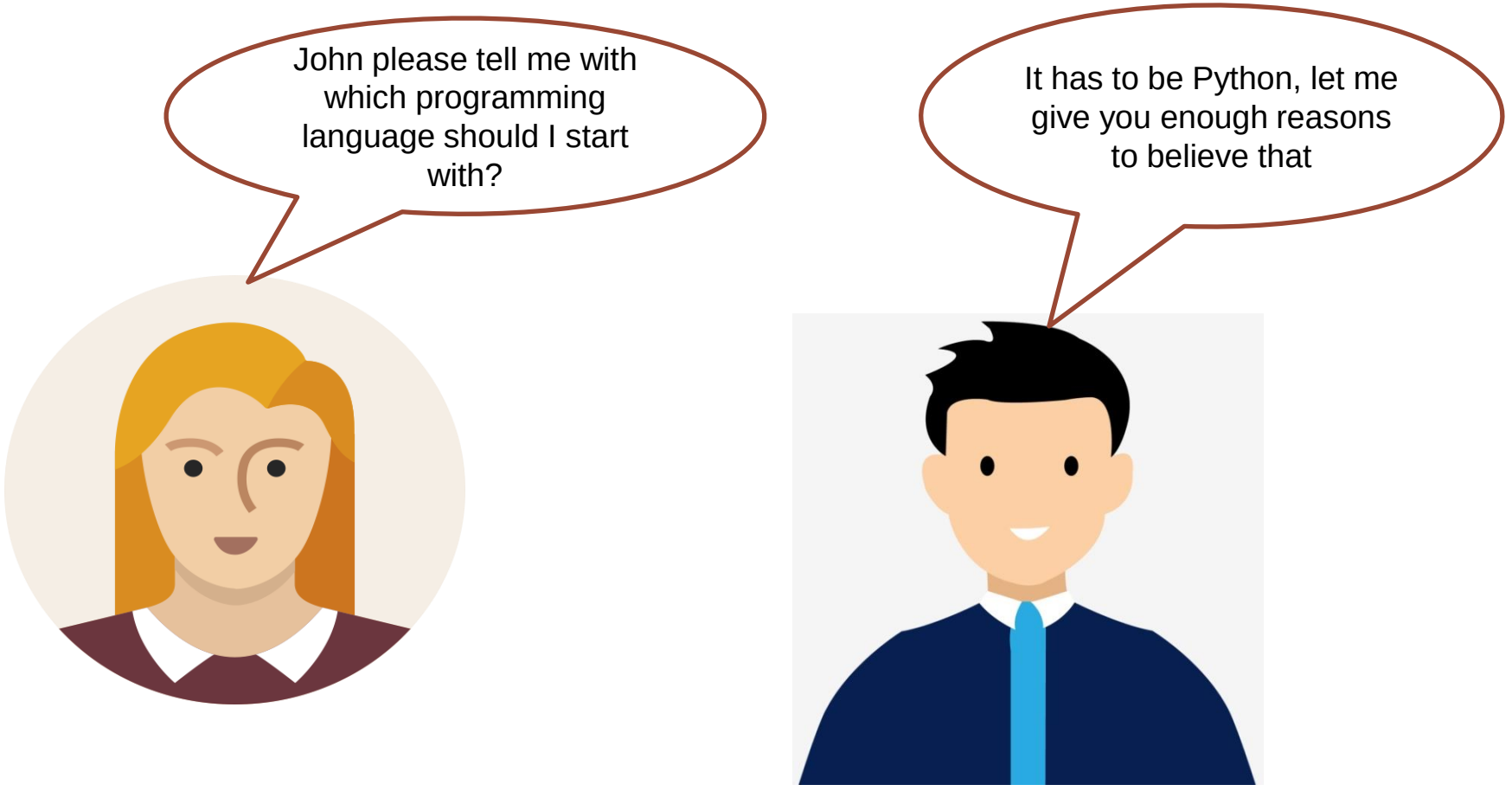
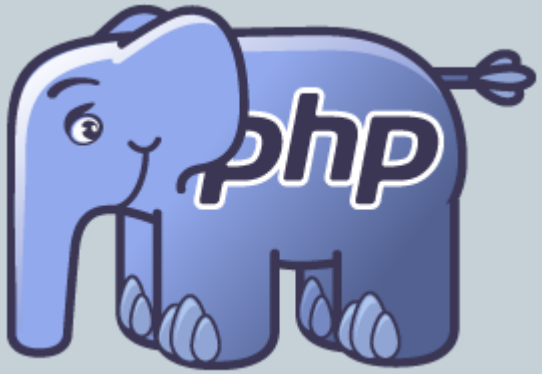

John please tell me with which programming language should I start with?
It has to be Python, let me give you enough reasons to believe that

Different Programming Languages



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Why Python?

Simple to use	• Python is simple and easy to learn, read and write
Open-Source	• Python is an Open Source software which means one can freely read, modify, distribute it's source code.
Portable	• Supported by many platforms like Linux, Windows, FreeBSD, Macintosh, etc.

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Why Python?

Object-Oriented Language	• Python supports object-oriented language and concepts of classes, objects encapsulation, etc.
Large Standard Library	• Python provides a rich set of modules and functions so you do not have to write your own code for every single thing
Dynamically Typed Language	• Python is a dynamically-typed language as we discussed earlier.

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What is Python?

Python is a general purpose, high level, interpreted and dynamic type language created by Guido Van Rossum.

- General Purpose
- High Level
- Interpreted
- Dynamic Type

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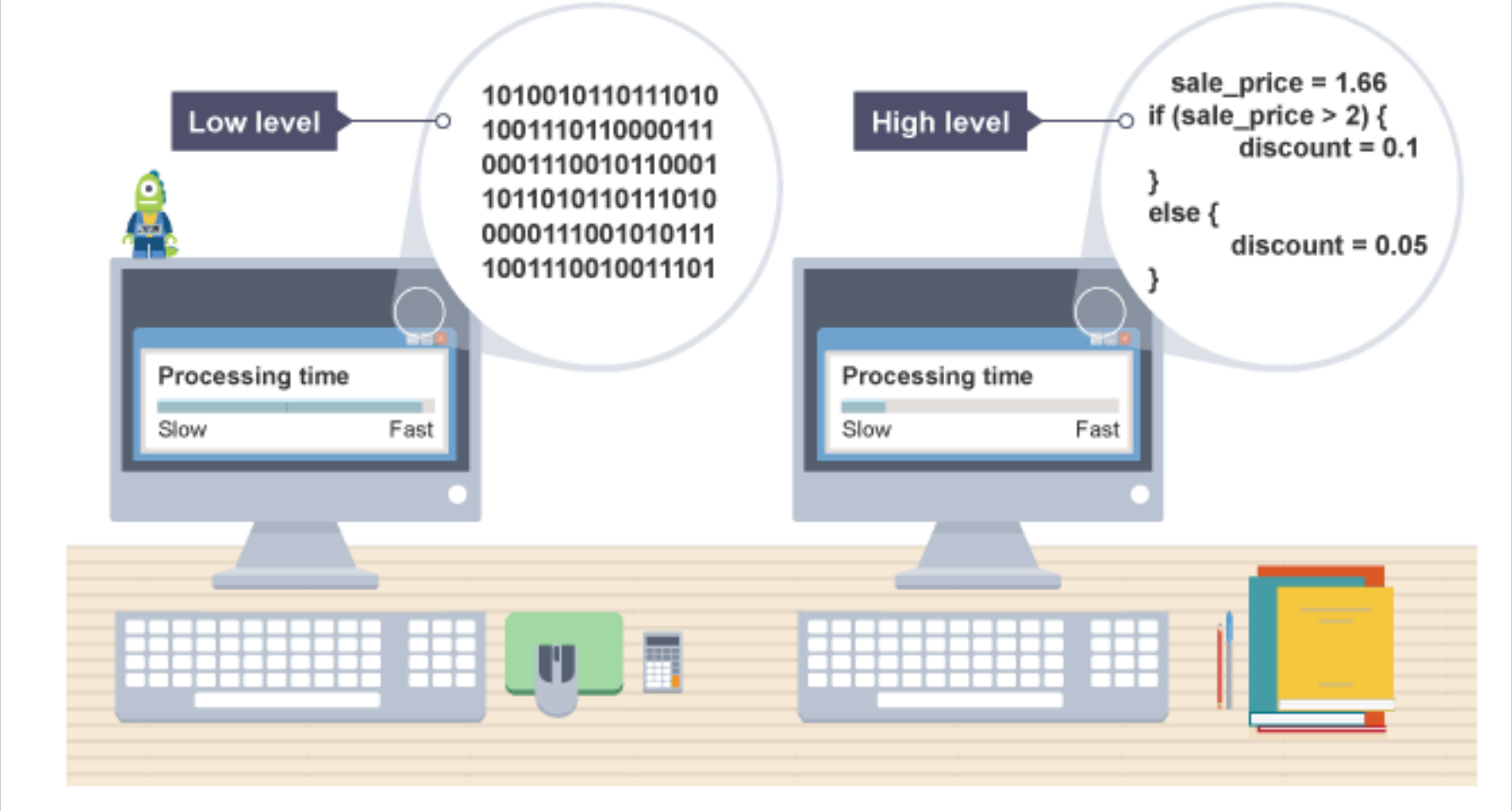
High Level Programming



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Interpreter

An **interpreter** is a translator used to translate one statement of the program at a time into machine code.

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Dynamic Typing

- Dynamic typing means that the type of the variable is determined only during runtime.
- Whereas static typing used by few other languages requires users to declare the variable type.

Dynamic Typing

- name = “John”

Static Typing

- String name = “John”

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Who uses Python

The popular Youtube video sharing system is largely written in Python.

Google makes extensive use of Python in it's web search system.

Dropbox storage service codes both his server and client s/w primarily in Python

The RaspberryPi –single board computer promotes Python as its educational language

COMPANIES THAT USE PYTHON

Bit-Torrent peer-to-peer file sharing system began its life as a Python program

NASA uses Python for specific programming tasks.

NASA uses Python for cryptography and intelligence analysis.

Netflix and Yelp both have documented the role of Python in their SW infrastructures.

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Python Applications

Web Scrapping	• Web scraping refers to the extraction of data from a website.
Web Development	• Python offers many frameworks from which to choose from including bottle.py, Flask, CherryPy, Pyramid, Django and web2py.
Data Analysis	• Python is commonly used as a programming language to perform data analysis

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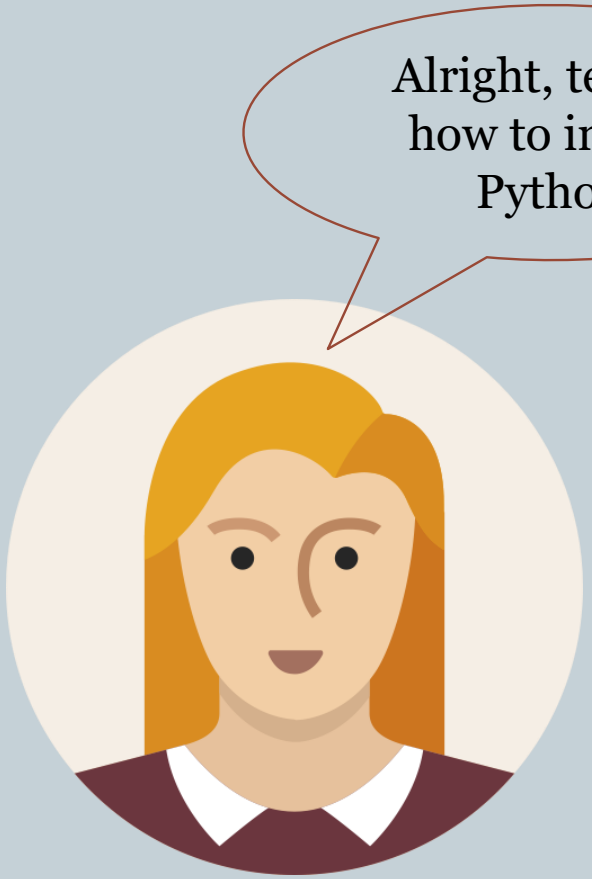
How to install Python



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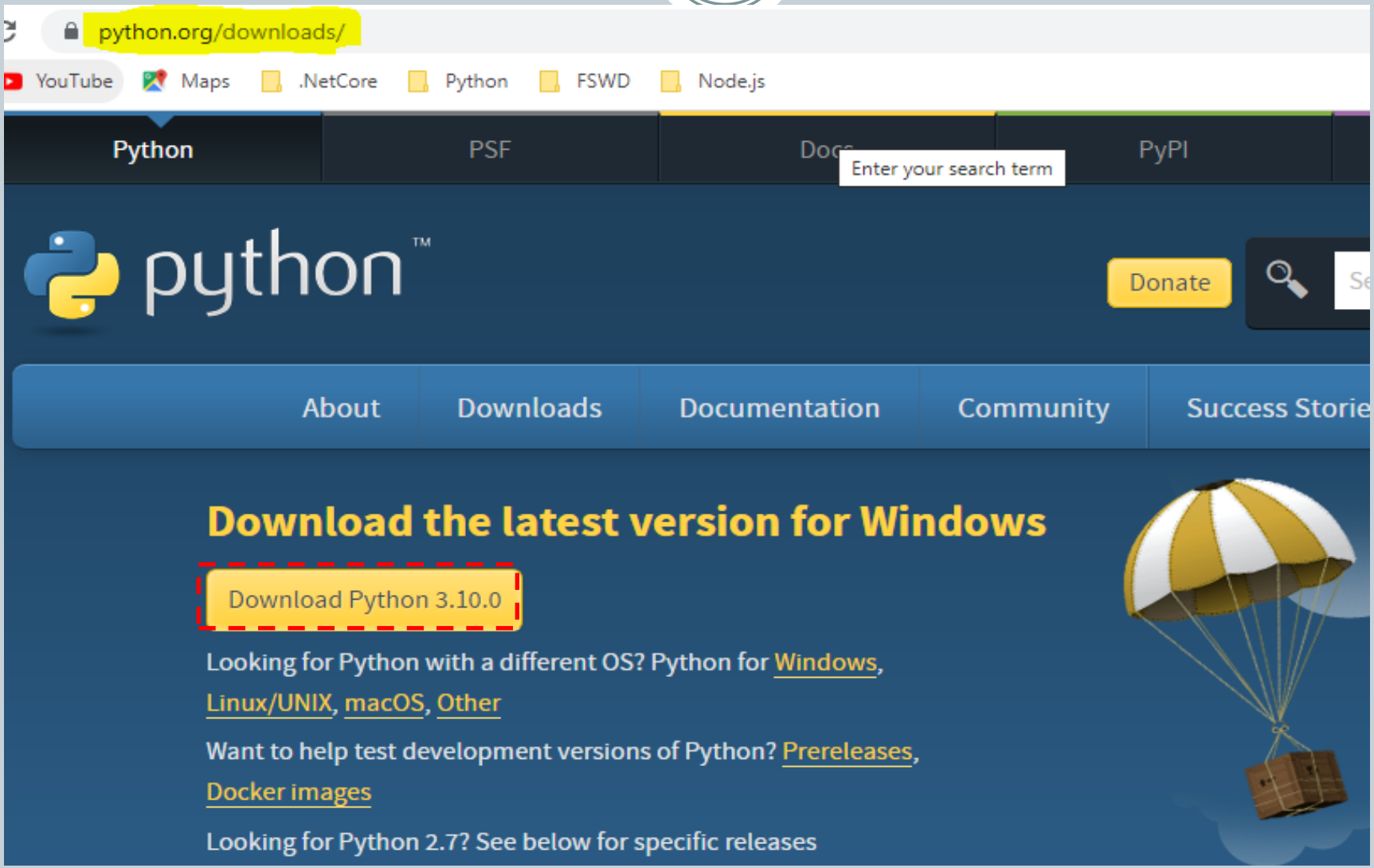
Installation of Python



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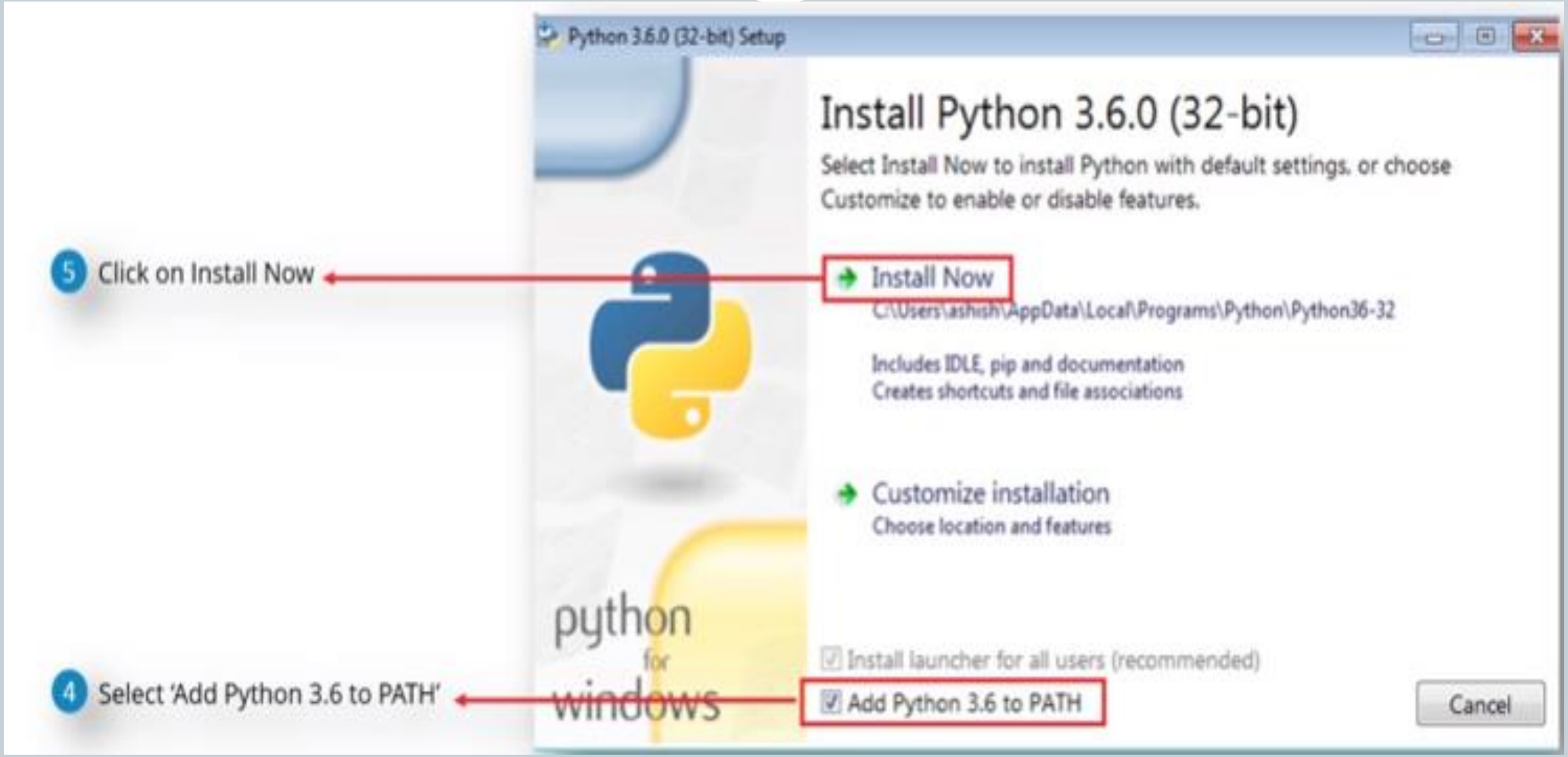
Python Installation



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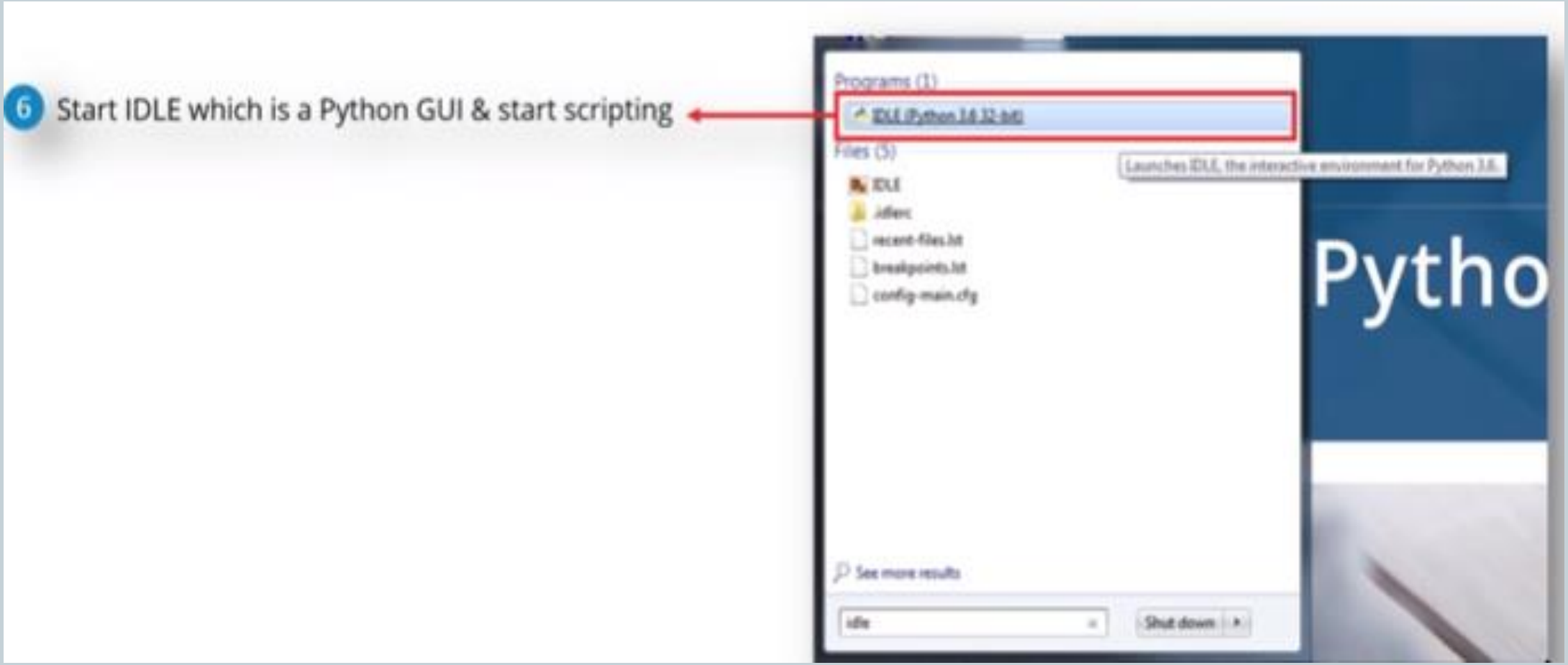
Python Installation



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Hello World Example.

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Self Check

1. Which type of Programming does Python support?

   a) object-oriented programming

   b) structured programming

   c) functional programming

   d) all of the mentioned

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Self Check

2. Is Python code compiled or interpreted?

a) Python code is both compiled and interpreted

b) Python code is neither compiled nor interpreted

c) Python code is only compiled

d) Python code is only interpreted

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Self Check

3. Which of the following is used to define a block of code in Python language?

a) Indentation

b) Key

c) Brackets

d) All of the mentioned

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Self Check

4. The Python interpreter takes the code that you write and converts it to the language that the computer's hardware understands.

a)True

b)False

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Quiz

5. What is the key difference between Python scripts and modules?

a. Modules are meant to be **imported**, while scripts are made to be directly **executed**.

b. Scripts are meant to be **imported**, while modules are made to be directly **executed**.

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Self Check

7. When you try to run Python scripts, a multi-step process begins. In this process the interpreter performs three steps:

- Ship off the code for execution.
- Process the statements of your script in a sequential fashion.
- Compile the source code to an intermediate format known as bytecode.

a. 1->3->2

b. 1->2->3

c. 3->2->1

d. 2->3->1

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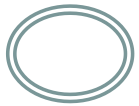

Questions?

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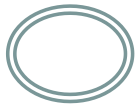

Thank you.

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