Welcome to Python!

Content

- What Is Python?
- Python Features
- Python Applications
- Downloading & Installing Python
- Running Python

What Is Python?

- **Python** is a general purpose, high-level, interpreted programming language.

- Developed by **Guido van Rossum** in the late 1980s at the National Research Institute for Mathematics and Computer Science in the Netherlands.

- **Python** is one of the most popular and widely used programming language used for set of tasks including console based, GUI based, web programming and data analysis.

Fact: **Python** is named based on the comedy television show *Monty Python's Flying Circus*.

Python Features

- **Easy to Learn and Use**

  Python is easy to learn and use compared with other programming languages. It is developer-friendly and high level programming language.

- **Interpreted Language**

  Python is an interpreted language because no need of compilation. This makes debugging easy and thus suitable for beginners.

- **Cross-platform Language**

  Python can run equally on different platforms such as Windows, Linux, Unix and Macintosh etc. So, we can say that Python is a portable language.

Python Features

Cont…

- **Free and Open Source**

  The Python interpreter is developed under an open-source license, making it free to install, use, and distribute.

- **Object-Oriented Language**

  Python supports object oriented language and concepts of classes and objects come into existence.

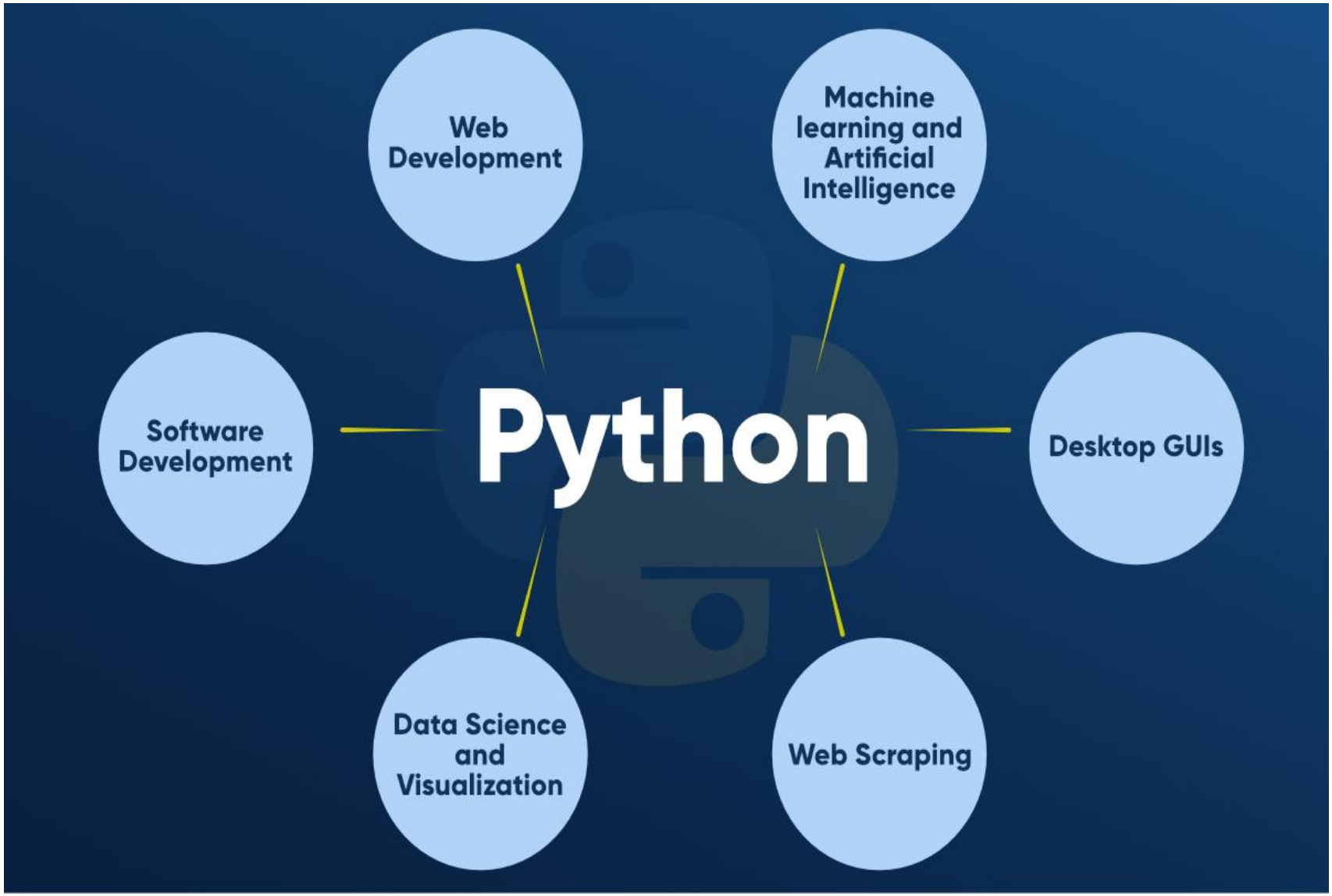
- **GUI Programming Support**

  Graphical user interfaces can be developed using Python.

- **Integrated**

  It can be easily integrated with languages like C, C++, and JAVA etc.

Python Applications



Downloading & Installing Python

- To start programming with **python**, we have to install python software. There are two major Python versions, those are **Python 2** and **Python 3**. Python 2 and 3 are quite different.

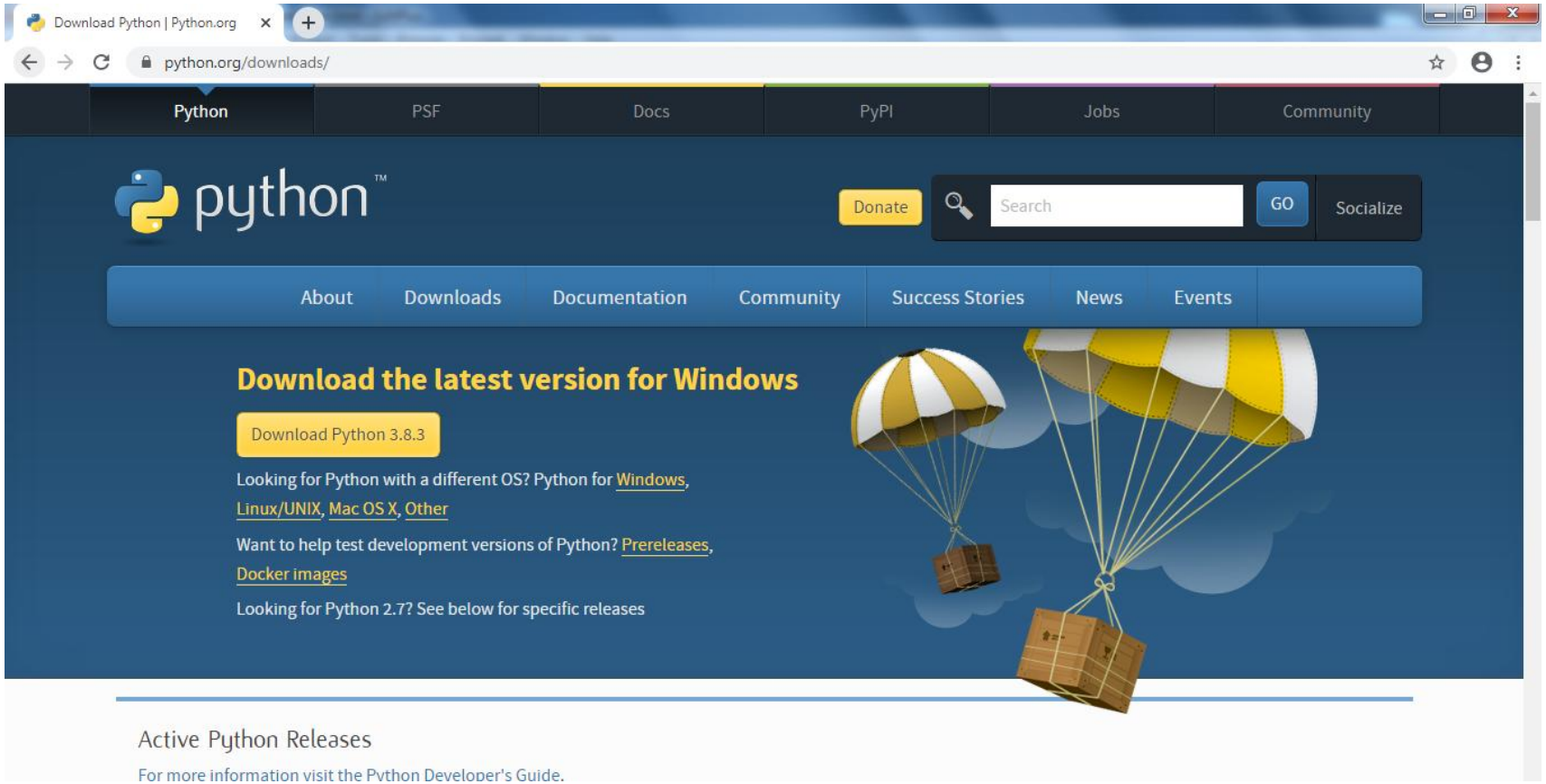
- In this tutorial we are going to use **Python 3**, because it more semantically correct and supports newer features.

- In this tutorial we are going to learn about installation of **Python3** on **Windows** and **Linux (Ubuntu).**

Downloading & Installing Python Cont...

Python3 installation procedure in Windows :

1. To install Python3 in windows, we have to download Python3 software pack from official website of Python Software Foundation. **Go to https://www.python.org/**

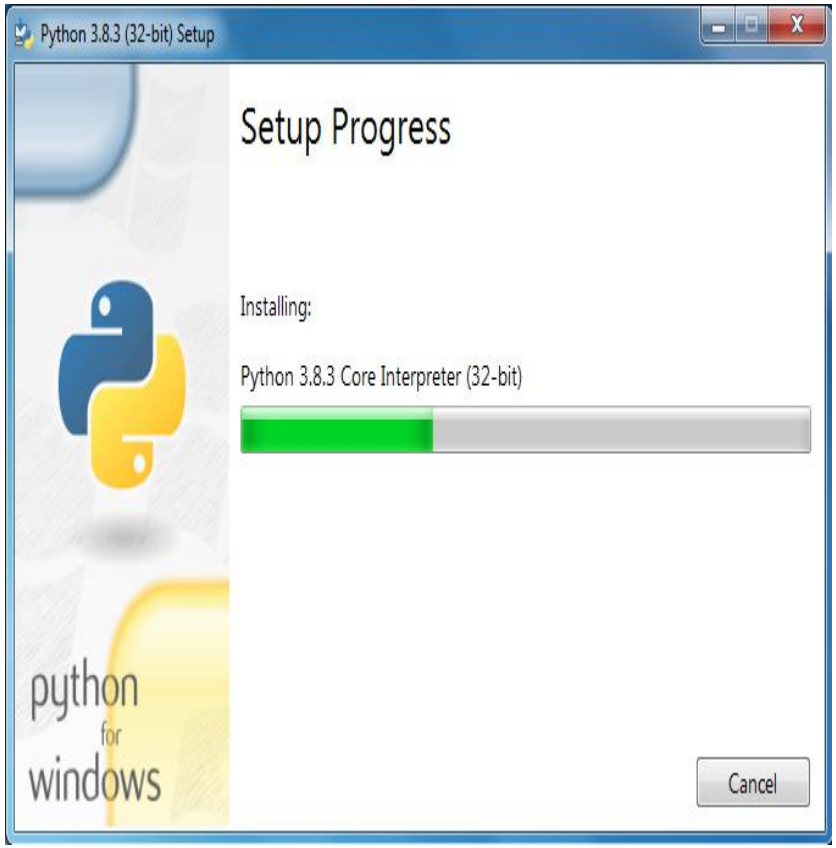


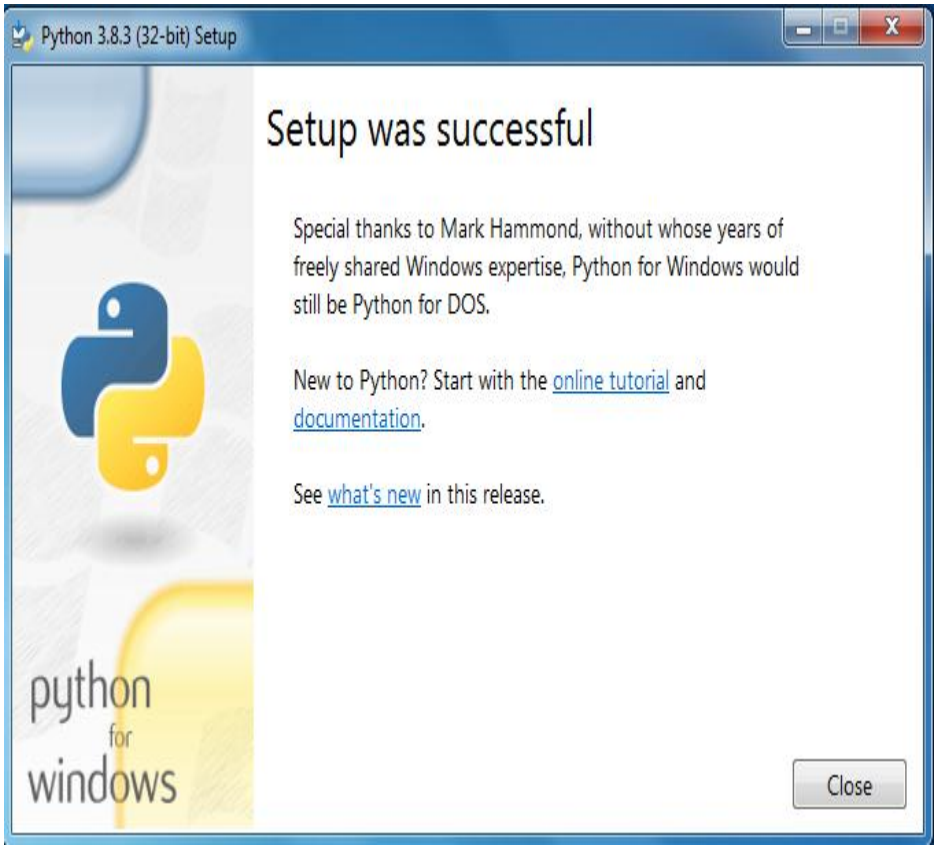
Downloading & Installing Python Cont...

2. Download the latest version of python(now latest version: **python 3.8.3**) for windows.
3. After the successful completion of download, we need to run ***python3.8.3.exe*** file.

Downloading & Installing Python Cont...

4. First we need to check ***Add Python 3.8 to PATH***, And then click on ***Install Now.***
5. The Python setup will take 2 to 3 minutes of time, After successful installation the following window will be displayed





Running Python

- After successful installation of python software we can able interpret or execute python script / program.

Python provides us the two ways to run a python script:

1. Using **Interactive interpreter prompt**
2. Using a **script file**

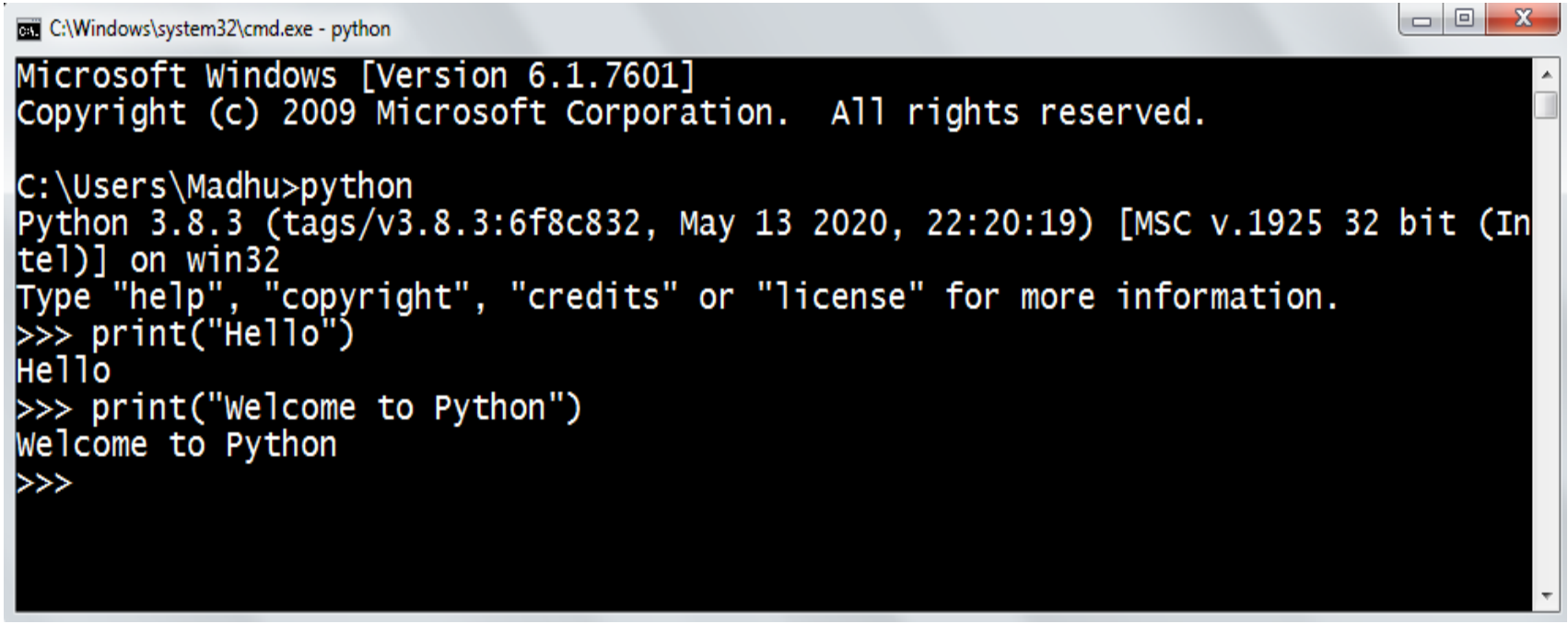
1. **Using Interactive interpreter prompt:**

- Python provides us the feature to execute the python statement one by one at the interactive prompt.
- It is preferable in the case where we are concerned about the output of each line of our python program.

Running Python cont…

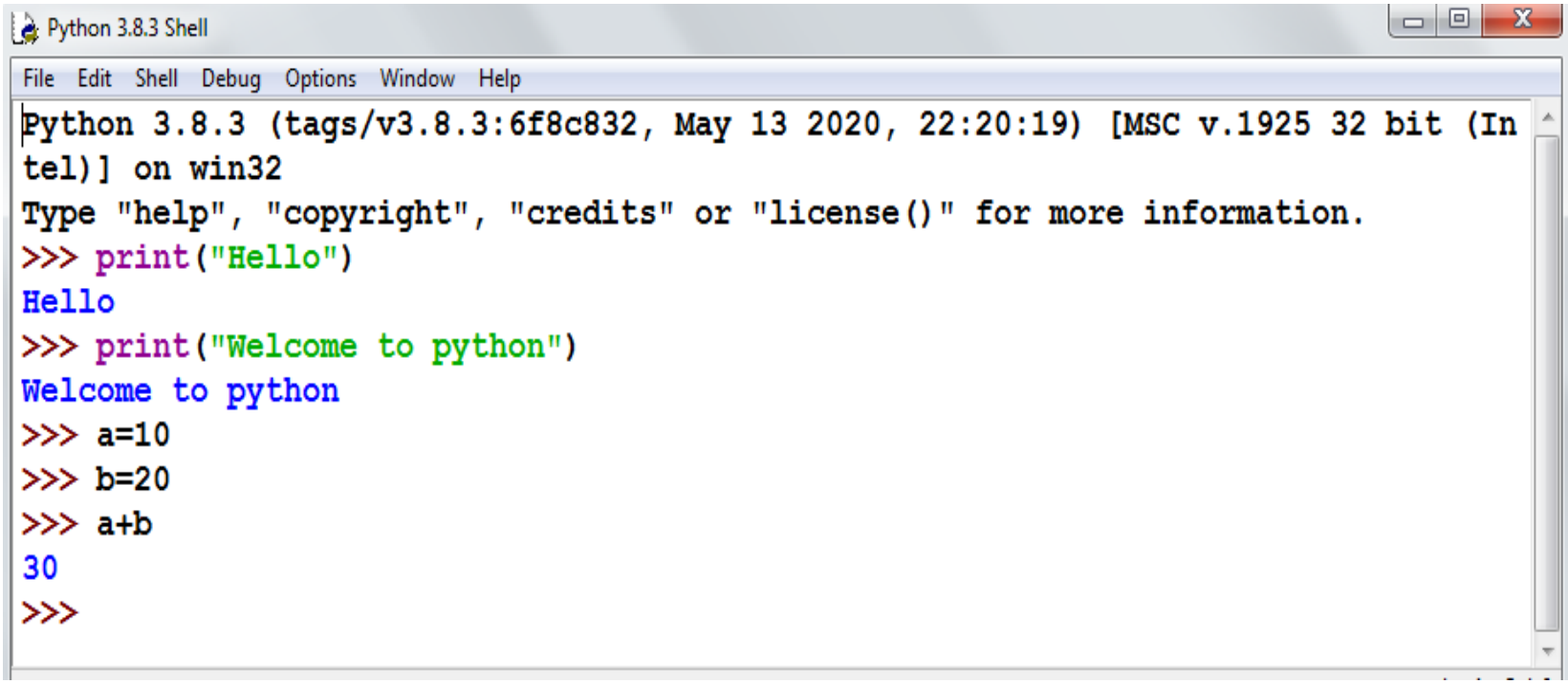
- To open the interactive mode, open the terminal (or command prompt) and type python (python3 in case if you have python2 and python3 both installed on your system).

Through Command Prompt :



Running Python cont…

- In windows, search for python IDLE in all programs and then click on python IDLE, then the python interpreter prompt will open.
- Through python IDLE:



Running Python cont…

2. Using Script File :

- Interpreter prompt is good to run the individual statements of the code. However if we want to execute multiple python statements at a time instead of executing one by one, then we can use ***script file***.

- We need to write our script into a file which can be executed later. For this purpose, open an editor like notepad, create a file named **filename.py** (python used .py extension) and write the python script in it.

- **Example: "*First.py*“**

```
print("Hello !")
print("Welcome to Python Programming")
```

Output:

```
E:\pythonprgms>python First.py
Hello !
Welcome to Python Programming
```