What is Python?

In this introductory section, we'll understand what Python is and how we can set it up.

We'll cover the following

Welcome to the course! We're glad to have you with us on this journey through the realm of **Python**.

Since we'll be starting from scratch, there's no need to worry if you have no prior experience with Python or coding in general.

So, without further ado, let's get started by learning what Python is.

The nature of the language

Developed in 1990, Python is one of the most popular *general-purpose* programming languages in modern times.

The term "general-purpose" simply means that Python can be used for a variety of applications and does not focus on any one aspect of programming.

A High-Level Language

Python falls under the category of **high-level, interpreted** languages. A high-level language is one which cannot be understood directly by our machine. There is a certain degree of *abstraction* in its syntax. Machines are generally designed to read **machine code**, but high-level syntax cannot be directly converted to machine code.

As a result, it must first be converted to **bytecode** which is then converted to machine code before the program can be executed.

Python is an interpreted language because, during execution, each line is interpreted to the machine language on-the-go.

However, if we take the example of C++, the code needs to be compiled into an executable first, and then it can be executed. In Python, we can skip this compilation step (Python does it for us behind the scenes) and directly run the code.

Readability

One of the biggest reasons for Python's rapid growth is the simplicity of its syntax. The language reads almost like plain English, making it easy to write complex programs.

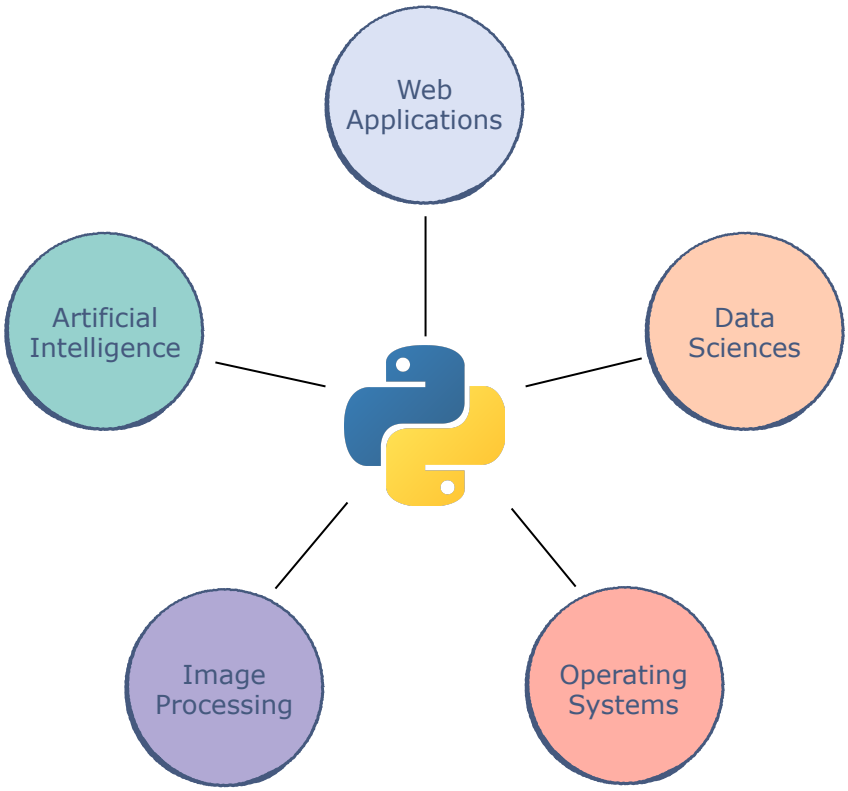
Since it doesn't have much of a learning curve, Python is a very good entry point into the world of programming for beginners.

Applications

Apart from the ease of learning, Python is a very efficient language which is used in almost every sphere of modern computing.

This makes a strong case for learning Python, even for non-programmers.

Some of Python's main applications are highlighted below:



Version History

Python has had several major updates in the past. **Python 2.7** was widely used for a very long time, even after the release of newer versions.

However, Python 2.7 will soon be deprecated and replaced completely by `3.xx` versions, known as **Python 3**. The differences between Python 2.7 and Python 3 are minute, but important nonetheless.

To keep up with the latest technologies, we'll be dealing with Python 3 for the entirety of this course.

Throughout this course, we will be able to write and execute Python code right here.

However, many of you may want to install Python on your machine for future use.

Visit the Appendix for a comprehensive guide on setting up Python.

In the next lesson, we'll write our first actual code in Python.