# **Day 1**

## What is Python?

**What it is**

Python is a powerful and easy-to-learn programming language. It offers efficient high-level data structures and supports object-oriented programming.

* Python is an interpreted programming language.
* It creates a new executable file each time you run your code.
* The Python interpreter and a vast standard library are available for major platforms.

[Python Website](https://www.python.org/): Source and binary forms for all platforms are freely accessible. Third-Party Modules: The site offers various free Python modules, programs, and tools. Additional Documentation: Extensive resources for learning and exploring Python.

**Key Features of Python**

* Elegant syntax and dynamic typing.
* Interpreted nature, making it ideal for scripting and rapid application development.
* **Platform independent** - works on most platforms.
* The Python interpreter can be extended with new functions and data types, often implemented in C or C++.
* Python is suitable for extending and customizing applications.

**Market Influence**

Python's popularity is steadily increasing in the job market. With proficiency in Python, you can aim for top positions within a few years.

**Job Fields in Python**

Integration with MySQL

* High demand due to both being open-source applications.
* Companies are transitioning from expensive systems to open-source alternatives.
* Examples include YouTube and BitTorrent.

Network Programming

* Requires in-depth understanding of network control.
* Offers opportunities for Python programmers.

Roles in Software Development

* Software Engineer, Software Developer, Research Analyst, Data Analyst, and Data Scientist positions.
* Database experience often a prerequisite.

**History of Python**

Inception of Python

* Python's inception dates back to the late 1980s.
* Guido van Rossum initiated its development at CWI in the Netherlands in December 1989.
* Python draws inspiration from concepts in the ABC and Modula-3 languages.
* It builds upon the lessons learned from previous language and operating system support.

Implementation and Compatibility

* Python is implemented in C and leverages the extensive and widely-understood C libraries.
* It seamlessly integrates with UNIX, Linux, and POSIX environments.
* Due to the availability of standard C libraries on various operating systems, including MS-Windows variants, Python performs consistently across different environments.

## Comments

In Python, comments start with the hash character, **#**, and continue until the end of the line.

They can appear at the beginning of a line or after whitespace or code, but not within a string literal.

If **#** is used within a string literal, it is treated as a regular character.

**# this is the first comment**

## Programs in python

‘Hello World’ must be printed to the screen (without quotation marks). The print statement is used to present output to the user.

**#Filename: helloworld**

**print('Hello World')**

## Escape Sequences

A screenshot of a computer

Description automatically generated

## Researved words

A table of words

Description automatically generated