

Session 1: Getting Started with Python

What is Python?

Python is a high-level, interpreted, and general-purpose programming language created by Guido van Rossum in 1991. It was designed to emphasize code readability and simplicity, making programming more accessible to beginners while remaining powerful for experts.

Why was Python created?

Python was created to provide an easy-to-use programming language that focuses on code readability and developer productivity. It was influenced by the ABC programming language and aimed to replace shell scripting and C in certain cases. Python allows developers to write fewer lines of code compared to languages like Java or C++.

Key Features of Python

Simple and easy to learn Interpreted (runs line by line) Cross-platform (runs on Windows, Mac, Linux, etc.) Extensive libraries and frameworks Supports multiple programming paradigms (OOP, functional, scripting)

Applications of Python

Python is widely used in many fields such as: Web Development (Django, Flask) Data Science and Machine Learning Automation and Scripting Game Development Cybersecurity and Ethical Hacking

Understanding Indentation

Indentation in Python is used to define blocks of code. Unlike many other programming languages that use braces `{}` or keywords, Python uses indentation (spaces or tabs) to indicate a block of code. Proper indentation is crucial, as incorrect indentation will result in errors.

```
if True:
    print('This is indented correctly')
print('This is outside the block')
```

Your First Python Program

```
print("Hello, Python!")
```

Assignment

Set up your IDE (e.g., VS Code or PyCharm). Write a program that prints a personal greeting and your name.

```
print("Hello, my name is Vipin!")
```

Practice Questions

1. Print your name and age using the print statement.
2. Print the result of $10 + 5$ using Python.
3. From HackerRank – Solve the problem 'Say Hello, World! With Python'.
4. From HackerRank – Solve the problem 'Python If-Else'.