

### What is Python?

#### Definition:

Python is a high-level, interpreted, general-purpose programming language. It is known for its easy-to-read syntax and versatility. Python supports multiple programming paradigms, including procedural, object-oriented, and functional programming.

---

### History of Python

- **Created By:** Guido van Rossum
  - **First Released:** February 1991
  - **Origin:** The name "Python" comes from the British comedy group *Monty Python*, not the snake.
  - **Current Versions:** Python 3.x (Python 2 is outdated and no longer supported)
  - **Popular For:** Web development, Data Science, Machine Learning, Scripting, Automation, and more.
- 

### Basic Python Concepts

#### 1. Variables

Used to store data values.

python

CopyEdit

```
x = 10
```

```
name = "Himanth"
```

## 2. Data Types

Basic types include:

- int – Integer numbers
- float – Decimal numbers
- str – String of characters
- bool – True or False

python

CopyEdit

```
age = 25      # int
```

```
pi = 3.14     # float
```

```
text = "Hello" # str
```

```
is_ready = True # bool
```

## 3. Operators

- +, -, \*, / – Arithmetic operators
- ==, !=, <, > – Comparison
- and, or, not – Logical operators

python

CopyEdit

```
a = 5
```

```
b = 3
```

```
print(a + b) # 8
```

## 4. Conditional Statements

Used for decision-making.

python

CopyEdit

```
if age > 18:
```

```
    print("Adult")
```

```
else:
```

```
    print("Minor")
```

## 5. Loops

To repeat tasks.

python

CopyEdit

```
# For loop
```

```
for i in range(5):
```

```
    print(i)
```

```
# While loop
```

```
i = 0
```

```
while i < 5:
```

```
    print(i)
```

```
    i += 1
```

## 6. Functions

Reusable blocks of code.

python

CopyEdit

```
def greet(name):
```

```
    print("Hello", name)
```

```
greet("Himanth")
```

---



### Python Syntax Basics

#### 1. Indentation is Important

Python uses spaces (indentation) to define blocks of code.

#### 2. No Semicolons (;)

Unlike other languages, semicolons are not required at the end of statements.

#### 3. Comments

Single-line comment: # This is a comment

Multi-line comment:

python

CopyEdit

```
"""
```

```
This is a
```

```
multi-line comment
```

```
"""
```