SkolarAi Robo Club

Module 1: Getting Started with Python

1. What is Programming?

Programming means **telling a computer what to do** using special instructions (code).

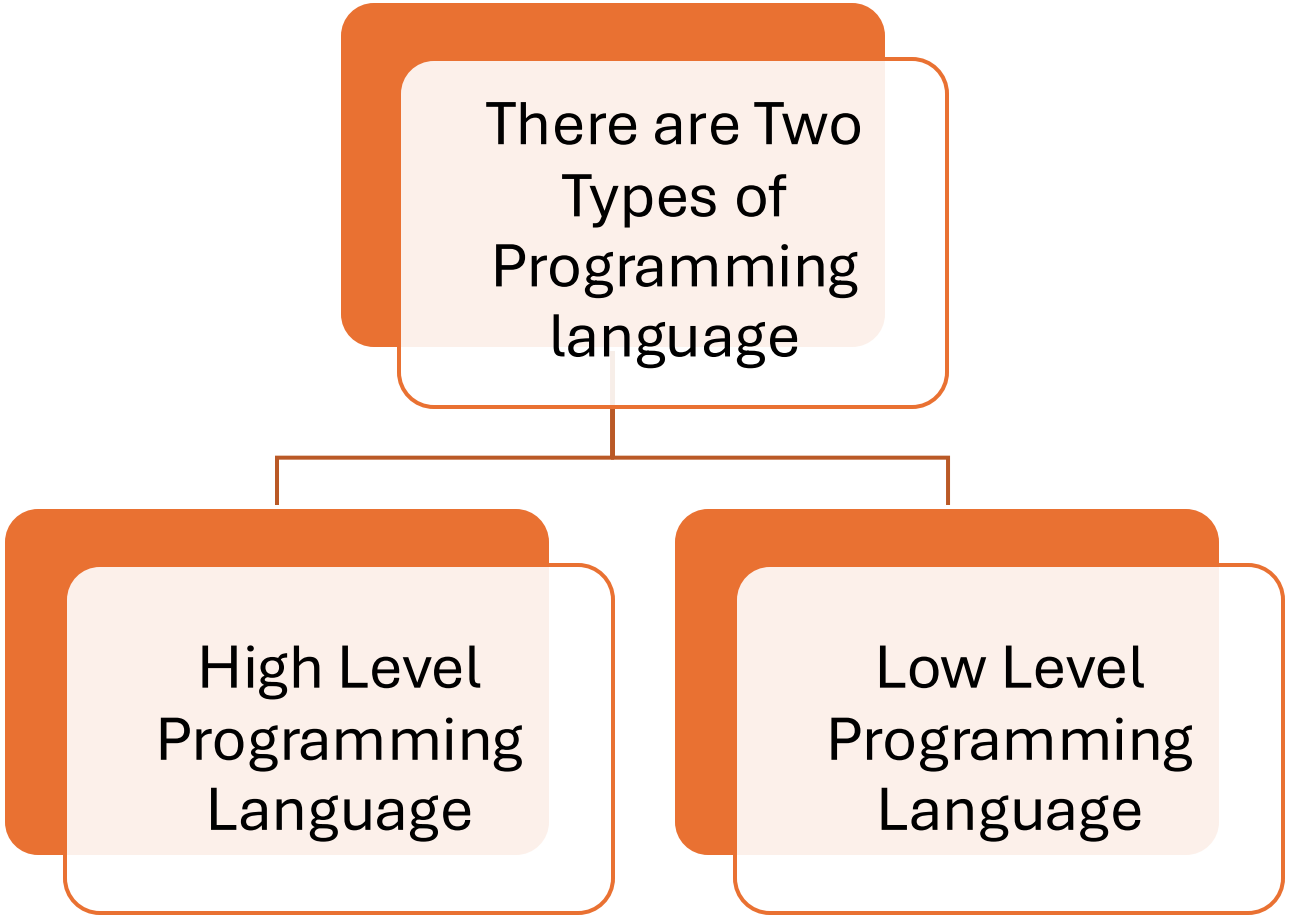
A program is like a **recipe** — it tells the computer step by step what to do.

Different programming languages exist (Python, Java, C++), but **Python** is one of the easiest for beginners.

🧠 Example Analogy

- Writing code is like teaching a robot how to make a sandwich — you give it clear steps like “Take bread”, “Add butter”, “Put cheese”, etc.

Types of Programming language



💬 High-Level Language

- Easy for humans to read and write.
- Focuses on **what to do**, not **how the computer does it**.
- Works on many types of computers.
- Great for beginners!
- Example: **Python, Java, JavaScript**
- 🧩 *Think of it like speaking in English — the computer translates it for you.*

⚙️ Low-Level Language

Talks **directly to the computer's brain (hardware)**.

Harder for humans to understand.

Focuses on **how things work inside the computer**.

Used when you need the program to be super fast.

Example: **Assembly, Machine Code**

🧩 *Think of it like speaking in the computer's own secret language — very powerful but hard to learn.*

🚀 Quick Summary Table

Type	Easy to Understand	Works on Many Computers	Speed	Examples
High-Level	✅ Yes	✅ Yes	⚡ Medium	Python, Java
Low-Level	❌ No	❌ No	⚡⚡ Very Fast	Assembly, Binary

What is Python?

- Python is a **high-level programming language** — easy to read and write.
- Used in **games, AI, web apps, robots, and even space research**!
- Created by **Guido van Rossum** in 1991.

💻 Setting Up Python

1. Install Python
2. Install VS Code

You can write Python code in:

- **VS-Code** (recommended)
- **Replit** (works in browser)
- **IDLE** (comes with Python)

Save files with `.py` extension, e.g., `hello.py`

Example Code/Program

```
print("Python is fun!")
```

Output:

```
Python is fun!
```

File names & extensions (super important!)

Extension: Python files **must** end with **.py**

- **Examples:** hello.py, game.py, math_quiz.py

Good file name rules:

- Use **lowercase** letters, **numbers**, and **underscores** (snake_case).
- **No spaces** and **no special symbols**.
- Start with a **letter** (not a number).
- One project can have many files, each ending with .py

Using the print() Function

- `print()` is used to **show messages on the screen**.
- Anything inside quotes (" ") is text.
- You can print numbers, words, or both.

```
print("Hello, my name is Avinash")
print("I am learning Python!")
print(5 + 3)
```

Output

```
Hello, my name is Avinash
I am learning Python!
8
```

Comments – Talking to Yourself in Code

- Comments are **notes** for humans, not the computer.
- Start with #, and Python will **ignore** that line.

```
# This is a comment
print("Hi!")  # This prints Hi on the screen
```


```
Hi!
```

Common Mistakes

Mistake	Problem	Fix
`print(Hello)`	Missing quotes	`print("Hello")`
`Print("Hi")`	Case-sensitive (should be lowercase)	`print("Hi")`
Forgetting brackets	Function call missing	`print("Hi")` not `print "Hi"`

Mini Activities

Activity 1 – My First Program

- print your name, age, and favorite hobby.

Mini Activities

Activity 2 – Fun Shapes

- Create simple text art

```
   *
  ***
 *****
*******
```

Mini Activities

Activity 3 – Code Detective

- Fix the given buggy code.

```
print("Hello World)
Print("Python is cool!")
print("2 + 2 =", 2 + 2)
```

Module 1 Challenge

Make a “Python Introduction Poster” in code!

```
**********************************
*     Welcome to Python World!     *
*       I am a Future Coder! 🧠       *
**********************************
```

Thank you

Ask your doubts!