

Digital Content on Python programming

Subject Name: Python Programming

Subject Code: 28521

**Md. Sabuj Rana
Instructor(Tech/Computer)
Computer Science and Technology
Khulna Polytechnic Institute**

Introduction to Basic Python Programming

Title Slide

- **Title:** Introduction to Basic Python Programming
 - **Subtitle:** A Beginner's Guide to Coding in Python
 - **Presenter Name:** [Your Name]
 - **Date:** [Date of Presentation]
-

What is Python?

- **Definition:** Python is a high-level, interpreted programming language.
 - **Features:**
 - Easy to learn and use
 - Open-source and free
 - Extensive libraries and frameworks
 - Versatile: Web development, data analysis, AI, and more
-

Why Learn Python?

- **Popular:** Widely used in various industries.
 - **Beginner-Friendly:** Simple syntax and readability.
 - **High Demand:** Python developers are in demand worldwide.
 - **Community Support:** Large and active community for help and resources.
-

Installing Python

- **Steps to Install Python:**
 1. Visit the official Python website: <https://python.org>.
 2. Download the latest version for your operating system.
 3. Install Python and ensure to check "Add Python to PATH" during installation.
 - **Tools to Use:**
 - IDEs: VS Code, PyCharm, or IDLE.
-

Python Basics

- **Hello World Example:**
 - `print("Hello, World!")`
 - **Variables:**
 - `name = "Alice"`
 - `age = 25`
 - **Data Types:**
 - Strings, Integers, Floats, Booleans
-

Control Structures

- **Conditionals:**
 - `if age > 18:`
 - `print("Adult")`
 - `else:`
 - `print("Minor")`
 - **Loops:**
 - **For Loop:**
 - `for i in range(5):`
 - `print(i)`
 - **While Loop:**
 - `count = 0`
 - `while count < 5:`
 - `print(count)`
 - `count += 1`
-

Functions

- **Definition:** Reusable blocks of code.
 - **Example:**

```
def greet(name):  
    return f"Hello, {name}!"  
  
print(greet("Alice"))
```
-

Working with Libraries

- **What are Libraries?**
 - Pre-written code that you can use in your programs.
 - **Popular Libraries:**
 - NumPy (Numerical Computation)
 - Pandas (Data Analysis)
 - Matplotlib (Data Visualization)
 - **Example:**

```
import math  
print(math.sqrt(16))
```
-

Debugging Tips

- **Common Errors:**
 - Syntax errors
 - Runtime errors
 - Logical errors
 - **Tips:**
 - Read error messages carefully.
 - Use debugging tools like breakpoints.
 - Write and test code in small parts.
-

Practice Makes Perfect

- **Resources:**
 - Online Platforms: Codecademy, LeetCode, HackerRank.
 - Python Documentation: <https://docs.python.org>.
- **Projects to Try:**
 - Build a calculator.
 - Create a simple game (e.g., Rock, Paper, Scissors).
 - Develop a to-do list app.

Q&A

- **Ask Me Anything!**
- **Contact Information:** [Your Email/LinkedIn Profile]

Thank You!

- **Message:** Thank you for attending!
- **Closing Note:** Happy Coding!