

AI & PYTHON PROGRAMMING

Led by Muhammad Zohaib

Overview

Go from beginner to pro in this hands-on Python program where you'll learn the fundamentals of programming, including inputs/outputs and problem-solving, then move into core concepts like variables, data types, and logic building. By the end, you'll build and showcase your own fully playable game.

Modules

➔ Module 1: Foundations of Programming & Python

- * Why Programming? (Real-world relevance for kids)
- * Evolution of Programming (From Machine Code to Python – simplified)
- * What is Python & why it's beginner-friendly
- * Setting up Python & Pygame (Installation)
- * Understanding Python Shell (IDLE)
- * Writing your first program
- * Basic Input & Output operations

➔ Module 2: Python Basics & Core Concepts

- * Data Types: integers, floats, strings, booleans
- * Variables & Identifiers
- * Operators (Arithmetic, Logical, Comparison)
- * Introduction to Problem Solving with Python
- * Mini Project: Interactive Quiz using Python Shell

➔ Module 3: Control Structures & Logic Building

- * Selection Statements (if, else, elif)
- * Iterations (loops – for, while)
- * Introduction to Functions & Modules
- * Debugging & Troubleshooting Basics
- * Logic-building exercises through small challenges

Modules

➔ Module 4: Introduction to Game Development (Pygame)

- * Introduction to Pygame
- * Understanding game loops & events
- * Basic graphics & screen handling
- * Adding movement and user interaction
- * Mini Game Project (e.g., Catch the Object / Moving Character)

➔ Module 5: Intermediate Game Development

- * Working with sprites and collisions
- * Adding sound effects and scoring systems
- * Game logic enhancement
- * Code modification (Hacks & Tweaks)
- * Debugging real game scenarios

➔ Module 6: Python Libraries & Final Projects

- * Introduction to useful Python libraries (age-appropriate)
- * Building multiple small projects
- * Final Game Project (end-to-end)
- * Presentation & showcase of student projects

Learning Outcomes

By the end of the course, students will:

- ➔ Understand core programming concepts
- ➔ Build logical thinking and problem-solving skills
- ➔ Create their own playable Python games
- ➔ Gain confidence in using technology creatively

PROGRAM DETAIL

FEE: PKR 12,500

DAYS: FRIDAY - SATURDAY

TIME: 11AM - 1PM