# COMPUTER PROGRAMMING

# What is Computer Programming

Computer programming is the process of creating sets of instructions, known as code, that tell a computer how to perform specific tasks.

**TERMINOLOGIES INVOLVED IN COMPUTER PROGRAMMING**

- **Code:** A code also called a program, refers to a set of instructions or statements written in a programming language that a computer can interpret and execute. It is the human-readable representation of algorithms and logic that instructs a computer on how to perform a specific task.
- **Programming Language:** A programming language is a formal system of communication designed to instruct a computer to perform specific tasks or operations. It serves as an intermediary between human programmers and the computer hardware. Programming languages vary in syntax, semantics, and use cases. Examples include Python, Java, C++, Python
- **Syntax:** Syntax defines the correct structure and format of the code. Different Programming Language have different syntax that must be strictly adhered to avoid errors.

- **Debugging**: The process of identifying and fixing errors, bugs, or issues in a program.
- **IDE (Integrated Development Environment)**: A software application that provides comprehensive tools for coding, debugging, and managing projects in one interface.

## USES OF COMPUTER PROGRAMMING

- Software Development, Website Development, Game Development, Data Analysis, Artificial Intelligence, Cyber Security, Automation, Blockchain and Cryptocurrency.

## EXAMPLES OF PROGRAMMING LANGUAGE

- **Python:** Web development, Data analysis, Machine learning and artificial intelligence, Automation and scripting, Scientific computing, Cyber security.

- **Javascript:** Web development, Game development, Mobile App Development.
- **PHP**: Server-side web development, Building dynamic websites, Scripting and automation, Processing and handling forms.
- **Java**: Android app development, Web development, Big data processing
- **C#:** Windows application development, Game development with Unity, Web development with ASP.NET, Cross-platform mobile app development.

# PYTHON PROGRAMMING