

Week 1: Understanding The Module

1. Learning Objectives

By the end of this week, you will be able to:

- Understand the structure, assessments, and expectations of the module.
- Define "software" and "software development".
- Describe the stages of the Software Development Life Cycle (SDLC).
- Set up your Integrated Development Environment (IDE) and write your first program.

2. Core Concepts

- **What is Software?**
 - A set of instructions, data, or programs used to operate computers and execute specific tasks.
 - Difference between System Software (e.g., Operating Systems) and Application Software (e.g., Microsoft Word, Google Chrome).
- **The Software Development Life Cycle (SDLC)**
 - A framework defining tasks performed at each step in the software development process.
 - **1. Planning & Requirement Analysis:** Defining the project's scope and purpose.
 - **2. Design:** Creating the software architecture and technical design.
 - **3. Implementation (Coding):** Writing the actual code.
 - **4. Testing:** Verifying the software is bug-free and meets requirements.
 - **5. Deployment:** Releasing the software to users.
 - **6. Maintenance:** Ongoing support and updates.
- **Programming Paradigms**
 - A brief introduction to Procedural, Object-Oriented, and Functional programming. This module will focus primarily on Procedural and later, Object-Oriented Programming (OOP).

3. Practical Setup

- **Installing Python:** Instructions for installing the Python interpreter.
- **Installing VS Code:** Steps to install and configure Visual Studio Code as your IDE.
- **"Hello, World!":** The traditional first program.

```
# This line prints the text "Hello, World!" to the console.
```

```
print("Hello, World!")
```

4. Summary

This week provides the foundational context for software development. The SDLC is a critical model that we will refer to throughout the module. Your development environment is now ready for you to start coding.