Python for Beginners: Task-Based Learning Made Easy

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- To access the updated class notes, please click on the following link: https://yasirbhutta.github.io/python/docs/python-task-based-learning.html

Module 1: Getting Started

Lesson 1: Python IDE Installation

This class focuses on installing a Python Integrated Development Environment (IDE) using a task-based approach. An IDE provides a comprehensive environment for writing, editing, and running Python code, including features like syntax highlighting, code completion, and debugging tools.

Learning Objectives:

- Understand the benefits of using an IDE for Python development.
- Identify popular Python IDE options.
- Install a chosen Python IDE on your operating system.
- Verify successful installation and run a simple Python program.

Task 1: Choosing an IDE

- Choose a Python IDE of your choice for coding.

There are several excellent Python IDEs available, each with its own strengths and features. Here are a few popular options:

- **Visual Studio Code (VS Code):** A free, open-source, and lightweight code editor with excellent Python support through extensions.
- **PyCharm:** A powerful, feature-rich IDE with strong debugging and project management tools (free Community Edition or paid Professional Edition).
- **IDLE:** The default IDE included with the standard Python installation (lightweight but offers basic features). Learn more ...

Consider these factors when choosing an IDE:

- **Experience Level:** Beginner, intermediate, or advanced?
- **Features:** Syntax highlighting, code completion, debugging, version control, etc.
- **Platform:** Windows, macOS, Linux?
- **Cost:** Free or paid?

Recommendation: In this course, you can use any tools to learn Python, but I recommend the following four tools. I will only provide support for these tools. For collaboration and debugging, we will use Replit.

1. Visual Studio Code (Online, Desktop)
2. Pydroid 3 - IDE for Python 3 (Mobile App)

3. Replit (Online, Desktop, Mobile)
4. Google Colab (Online)

Task 2: Installation Process

- Install your chosen IDE on your device or use any online/cloud-based tools.

Example: Installing VS Code

Windows:

1. Install Python from python.org. Use the Download Python button that appears first on the page to download the latest version. Learn more ...
2. Visit the VS Code download page: https://code.visualstudio.com/download
3. Download the installer for your operating system.
4. Run the installer and follow the on-screen instructions.
5. Once installed, open VS Code.
6. Install the Python extension for Visual Studio Code(search for "Python" in the Extensions panel).

Task 3: Verification and Running a Python Program

1. Open the selected IDE.
2. Write a simple Python program, such as `print("Hello, world!")`.
3. Run the code.

Example: Visual Studio Code

1. Open VS Code and create a new Python file (e.g., "hello.py").
2. Write a simple Python program (e.g., `print("Hello, world!")`).
3. Save the file.
4. In VS Code, verify syntax highlighting for Python code.
5. Run the program using the built-in terminal or a Python extension command.
6. Observe the output in the terminal window (e.g., "Hello, world!").