Ways to Run Python Programs

1. Python Shell

- Useful for running and testing small code snippets.
- Allows direct code execution without creating `.py` files.
- To exit the Python shell, type `exit()` and press Enter.

2. Running Python Files from the Command Line/Terminal

- Files with the `.py` extension can be executed via command line/terminal.
- Syntax: `python filename.py` .
- Example:

```
python hello_world.py
```

Advantages of Visual Studio Code (VS Code)

- Combines the benefits of Python shell and terminal execution.
- Offers features like:
  - Auto-completion.
  - Debugging tools.
  - Syntax highlighting.
  - Indentation and whitespace helpers.
- Allows running scripts directly using the **Run** or **Debug** buttons.

How to Run Python Programs in VS Code

1. Open a terminal within VS Code via **Terminal** > **New Terminal**.
2. Run a script using:
   - `python filename.py` in the terminal.
   - The **Run Python File** or **Debug Python File** options in the top-right corner.
3. The terminal opens automatically to display the output.

Key Takeaways

- Python programs can be run via the **Python shell**, **command line**, or **IDE**.
- VS Code enhances the Python development experience with additional features and ease of use.

- You can switch between the methods based on your project needs or preferences.