IDE Selection Report

Chosen IDE: Visual Studio Code (VSCode)

For this project, our team selected **VSCode** as our primary IDE because it provides a strong balance of usability, functionality, and team collaboration support.

Why We Chose VSCode

1. **User-Friendly Interface**
   VSCode offers a clean graphical interface that makes navigating files, debugging, and managing extensions straightforward. This is especially helpful for team members with varying levels of development experience.

2. **Built-in Git Integration**
   VSCode has seamless Git integration, allowing us to manage branches, commits, and merges directly within the IDE. This improves workflow efficiency and reduces context switching.

3. **Extension Ecosystem**
   The large extension marketplace supports Python, C, Jupyter notebooks, Docker, linting tools, formatting tools, and more. This flexibility allows us to adapt the IDE to our tech stack as the project evolves.

4. **Integrated Debugger**
   VSCode provides built-in debugging tools with breakpoints, variable inspection, and step-through execution. This significantly improves development speed and error tracking compared to manual debugging.

5. **Team Standardization**
   Using a common IDE ensures consistent formatting, shared settings, and easier collaboration across the team.

Why We Did Not Use Vim

1. **Steep Learning Curve**
   Vim is highly efficient for experienced users, but it has a steep learning curve. Not all team members are equally comfortable with modal editing, which could slow productivity.

2. **Limited Built-in GUI Features**
   Vim is primarily terminal-based and lacks the integrated visual debugging tools and file

management features that VSCode provides out of the box.

3. **Collaboration Efficiency**
   While Vim is powerful for individual development, VSCode's built-in Git tools, extensions, and graphical interface make collaboration smoother for a team environment.

4. **Project Complexity**
   Our project benefits from integrated debugging, extensions, and visualization tools that are more naturally supported in VSCode.