

Student Management System

Project Overview

This project is a simple **Student Management System** developed in **Java**. It demonstrates essential **Object-Oriented Programming (OOP) concepts**, including:

- **Encapsulation:** The `Student` class has private fields with public getter and setter methods.
- **Abstraction:** The program hides implementation details from the user and provides a simple menu-driven interface.
- **Inheritance:** (If extended in the future) A base `Person` class could be used for both students and teachers.
- **Polymorphism:** Methods like `addStudent()` and `removeStudent()` operate on different student objects dynamically.

Features

- Add new students with a unique ID.
- View all registered students.
- Remove students based on their ID.
- Simple text-based menu navigation.

How to Run the Project

1. Install Java Development Kit (JDK) from [Oracle](#).
2. Use an IDE (Eclipse, IntelliJ, or NetBeans) or a text editor like Notepad++.
3. Copy and paste the Java code into a file named `StudentManagementSystem.java`.
4. Open a terminal, navigate to the file location, and compile the program using:

```
javac StudentManagementSystem.java
```

5. Run the program:

```
java StudentManagementSystem
```

6. Follow the on-screen menu to add, view, or remove students.

Conclusion

This project provides a basic understanding of **OOP concepts** in Java while managing student records. It can be extended by adding features like **file storage, database integration, and GUI-based management**.