

OOP Project Report

Academy Management System



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Introduction

The Academy Management System is a C++ program designed to manage an educational academy. It allows the administration, teachers, and students to perform various tasks through a command-line interface. This system consists of four main classes.

Classes Details:

1. Academy Class

- **Purpose:**

The Academy class is the entry point of the application. It manages the main execution flow and orchestrates interactions between different user roles.

- **Key Function:**

- `void run()`: This function manages the main loop of the program, handling user inputs and coordinating actions based on the user role.

2. Student Class

The student class contains all the functions and attributes of students including student name and passwords and his subjects and marks in subjects.

- **Attributes:**

Username, Passwords, marks, subjects, fees Status.

- **Key Functions:**

Functions to return marks and subjects and fees status.

3. Teacher Class

The Teacher class contains all information about themselves and can manage students results.

Attributes:

Username, Passwords, subjects, salary Status.

- **Key Functions:**

Functions to change marks and compile results and see salary status

4. Admin Class

- **Attributes:**

Admin Username and passwords that are constant.

- **Key Functions:**

Functions to add and remove students and teachers and manage fees and salary.

Workflow:

1. Admin Login:

- The admin can log in using a predefined username and password.
- After logging in, the admin can add or remove students and teachers, manage fees, and manage teacher salaries.

2. Teacher Login:

- Teachers log in with their credentials.
- They can change student marks, compile student results, and view their salary status.

3. Student Login:

- Students log in with their credentials.
- They can view their results and fee status.

OOP Features Used:

In this AMS we have used following OOP Features:

Friend Classes:

To create relationships between classes.

Operator Overloading:

To input and display Students and Teachers Details.

Data Encapsulation:

To ensure that specific tasks are performed by designated personnel.

Conclusion:

The Academy Management System is a comprehensive solution for managing students, teachers, and administrative tasks in an educational institution. It ensures that all stakeholders can efficiently perform their roles, contributing to a streamlined management process

Flow Chart:

