Vanier College

Computer Science Department

School Management System

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420-301-VA: Programming Patterns

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# Objective

To develop a School Registration System that allows students, teachers, and administrators to interact with course management. The system will enable students to register for courses, view their schedules, and manage their academic information, while teachers and administrators will have their own distinct functionalities. The project will focus on fundamental data structures, unit testing, and object-oriented principles.

# Overview

The system will provide the following functionalities:

Students: Register for courses, view schedules, and drop courses.

Teachers: View course details and class rosters.

Administrators: Add, update, and remove courses, and manage student enrollments.

The project will use data structures such as ArrayList, LinkedList, Stack, and Queue, along with interfaces like Comparable and Comparator. Unit tests will ensure the correctness of operations, and Maven will handle dependency management.

# Key Features

## Student Portal:

Register and drop courses (add/drop functionality).

Before registering for a course.

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View current course schedule.

## Teacher Portal:

View course details such as enrolled students and class schedules.

Before adding a class:  
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After adding a course:   
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View student list when there are no students:  
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View student details when there is someone is registered to the course:  
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## Administrator Portal:

Add, update, or remove courses.

Add a course:  
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Update table:

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Delete Course:

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Manage student enrollment.

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# Challenges:

We faced many challenges during this project. Communication and coordination were some of them. It took a lot to communicate with each other to work on the project properly and having multiple pull requests at the same time was also a challenge we faced. We also faced some problems implementing the methods correctly. The team had a hard time making our code work properly for all of us. Since we split the work by role (Matthew Macri dealt with the admin side. Phoeuk Thao worked on the teacher’s side and Matthew Veroutis worked on the student side), our work works separately, but collectively it has some issues.