

University Learning Management System

Computing Fundamentals

Term Project

Overview of Project

You are required to develop a University Learning Management system. Every student enrolled in the university will have account on your Learning Management System. Account will contain Courses enrolled for a student, Grade Book (showing the GPA and CGPA of student), Account Book (providing the fee system), and Profile of the Student. Profile of the student will contain personal information of the student and status of the student in the university. Every student will have a unique ID and password to login on your Learning Management system. Administrator can add a new course. Administrator can print all Data of the student.

Phase 1

In phase 1 of project, you are required to develop a Course Management Module.

Data Validation

Each course will have the following data.

- Course Code (First two characters of code are alphabets and next 3 characters are digits)
- Course Name (Only alphabets and space characters are allowed, Maximum 50 characters)
- Credit Hours (Allowed values are 1 to 3)
- Semester (Allowed values are 1 to 8)

Functions

You are required to develop following functions.

- **bool isValidCourseCode**(code: Text)
- **bool isValidCourseName**(name: Text)
- **bool isValidCreditHours** (crdHrs: Integer)
- **bool isValidSemester**(semester: Integer)
- **void AddCourse**(codeList: Text Array, nameList: Text Array, crtHrsList: Integer Array, semList: Integer Array, courseCode: Text, courseName:Text, crdHrs:Integer, semester:Integer)
- **void EditCourse**(codeList: Text Array , nameList: Text Array , crtHrsList: Integer Array, semList: Integer Array, courseCode: Text, courseName:Text, crdHrs:Integer, semester:Integer)
- **void DeleteCourse**(codeList: Text Array , nameList: Text Array , crtHrsList: Integer Array, semList: Integer Array, courseCode: Text)
- **void ViewCourses**(codeList: Text Array , nameList: Text Array , crtHrsList: Integer Array, semList: Integer Array)
- **void ViewSemesterCourses**(codeList: Text Array , nameList: Text Array , crtHrsList: Integer Array, semList: Integer Array, semester:Integer)

Sample Output

- Functions will be used to complete the following program

```
** Welcome to University Learning Management System **
Choose the following option
1      Add Course
2      Update Course
3      Delete Course
4      View All Courses
5      View Courses of a Semester
6      Exit Program

Choose the option:
```

- When user enters 1 then the program will ask the input in the following format

```
Choose the option: 1
Enter the details of the course: CS101 3 1 Computing Fundamentals
Course has been added successfully
```

- When user enters 2 then the program will ask the input in the following format

```
Choose the option: 2
Enter the course code to edit: CS101
Enter the new details of the course: CS101 2 1 Introduction to Computing
Course has been edited successfully
```

- When user enters 3 then the program will ask the input in the following format

```
Choose the option: 3
Enter the course code to delete: CS101
Course has been deleted successfully
```

- When user enters 4 then the program will ask the input in the following format

```
Choose the option: 4
```

| Course Code | Name | Credit Hours | Semester |
|-------------|--------------------------|--------------|----------|
| CS101 | Computing Fundamentals | 3 | 1 |
| CS201 | Programming Fundamentals | 3 | 2 |
| MA101 | Calculus | 3 | 1 |

- When user enters 5 then the program will ask the input in the following format

```
Choose the option: 5
Enter the semester: 1
```

| Course Code | Name | Credit Hours |
|-------------|------------------------|--------------|
| CS101 | Computing Fundamentals | 3 |
| MA101 | Calculus | 3 |

- When the user will press 6 then program will be closed. Otherwise program should not be closed, it should display main menu after completion of a task.
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