

# COMPUTER PROGRAMMING

UG1

[WEDNESDAY NOVEMBER 13, 2019]

## LAB ASSIGNMENT – 11

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### NOTES:

- i) Please carefully read all assignments and there is no choice.
- ii) Each problem in this assignment has to be answered in the same c file.
- iii) Strictly follow proper name/style convention. When you are ready, submit the solution via google classroom.

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### PROBLEMS:

For this assignment we will be creating a simple software for Student-Information Management system. Please start by creating a structure (Struct) to capture the following student information.

- (1) First name
- (2) Last name
- (3) Roll no (should be unique)
- (4) CGPA
- (5) Courses registered (integer array – assume course id is int)

The maximum number of students that the system should be able to handle is 50 (hint: its OK to declare the students array as a global variable). Please write **separate functions** to support the operations:

- 1) **Unify** the below solutions into a software. The software runs **forever**, unless until the user wants to quit. The options/functionalities are presented as a numeric menu, from which the user can chose what to do. [Hint: use infinite-loop and switch-case in main]
- 2) **addStudent**: Get data from user and add a student to the list of students. (check for uniqueness of the rollno)
- 3) **findStudent (by rollno)**: Find the student record for the given roll no and print the details.
- 4) **findStudents(by first-name)**: Find all students with the given first name and print their details.
- 5) **finsStudents(by course-id)**: Find all students who have registered for a given course
- 6) **totalStudents**: print the total number of students in the system
- 7) **deleteStudent(by rollno)**: delete the student record for the given roll no [Hint: this requires some thinking and modify addStudent appropriately]

- 8) `updateStudent`(by rollno): a way to update student record (should not ask for new details for all fields, the user should be able to pick and choose what they want to update)
  - 9) `PrintStudentStatistics`: compute mean, median, std-dev of students CGPA and print it.
  - 10) `PrintCourseSummaries`: print a summary of how many students have registered in each course.
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# DATA STRUCTURES & ALGORITHMS 1

BATCH – B

[FRIDAY JANUARY 25, 2019: 3:30 PM – 6:30 PM]

ASSIGNMENTS – 2

CODE: assign02

NOTES:

- 1) Please carefully read all assignments and there is no choice.
- 2) For this assignment you don't need to use the template.
- 3) Each problem in this assignment has to be answered in the same c file.
- 4) Create a .c file following the file name convention:

If your roll number is `abc` and assignment code is: `assign01`

Then use the following file name convention as follows:

`abc-assign01.c`

For example, if the roll number is `92` and assignment code is `assign01`, then the file name should be `092-assign01.c`

- 5) Strictly follow the file name convention. When you are ready, submit the solution via google classroom.

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PROBLEMS [Total Marks: 20]:

For this assignment we will be creating a simple software for Student-Information Management system. Please start by creating a structure (Struct) to capture the following student information.

1. First name
2. Last name
3. Roll no (should be unique)
4. Courses [integer array of course IDs]

The maximum number of students that the system should be able to handle is 50 (hint: its OK to declare the students array as a global variable).

PLEASE WRITE FUNCTIONS TO SUPPORT THE FOLLOWING OPERATIONS:

**[Marks: 4]**

1. `addStudent`: Get data from user and add a student to the list of students. (check for unique-ness of the rollno)

**[Marks: 4]**

2. `findStudent` (by rollno): Find the student record for the given roll no and print the details.

**[Marks: 6]**

3. findStudents(by course-id): Find all students who have registered for a given class

**[Marks: 6]**

4. Print a summary of how many students have registered in each course.

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