Structures and Arrays

Time span: *1 lab day (1.5 hrs)*

Problem: Component development for the result evaluation system.

Description: Nepal Technical University teaches only three subjects in their special vocational program. The following 2D table describes the result of the internal examination of 5 students.

CRN	Name	Programming	Math's	Physics
301	Hari Kunwar	45	60	36
302	Manita Thapa	52	15	65
303	Puskar Shah	78	85	79
304	Usha Karki	48	45	45
305	Bikash Rajat	92	95	88

Solution:

1. Represent the students and their associated marks using array of structures(class).
2. Assume, the pass percentage is 45%, write a function to count the number of students failing in each subjects.
3. Given the following result categories (Division),
   a. Less than 45%: Fail
   b. Above 45%: Pass
   c. Above 50%: Second Division
   d. Above 75%: First Division

   e. Above 90%: Distinction.

   The software has a feature of SMS services to their clients. To integrate with SMS services, write a function that takes an input of CRN of the student and returns the result category (division) of the student.

5. The software has a feature of report generation which contains the results of all the students. To achieve that write a function to display the results in the following format.

CRN	Name	Division
301	Hari Kunwar	????
302	Manita Thapa	???
303	Puskar Shah	???
304	Usha Karki	???
305	Bikash Rajat	???

Implementation:

You can write this program in any language of your choice. But, we prefer C/C++ in this case as we are learning Data Structure and Algorithms in C language.

Assumptions:

This problem is related to the exam evaluation system. While writing program, make necessary assumptions for data and their valid representations.

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