
CS246: Database Management Systems Lab

Lab # 02 (1 Questions, 50 Points)

Timings: 14:00 to 17:00 Hours Pages: 2

IIT Guwahati

14 Jan 2020 (Tue)

Question 1: (50 points)

Implement the following problem in C or C++ Programming Language. Use of any other programming language is not allowed and will lead to awarding 0 marks.

Input Data You are given three input data files containing the following:

students.csv Each line contains information about one student as described below:

- Student name
- Student roll number

courses.csv Each line contains information about one course. The following attributes are given for each course

- Semester number in which the course is offered. Semester number is between 1 and 8 (both inclusive)
- Course number
- Course name
- Number of lecture hours per week
- Number of tutorial hours per week
- Number of practical hours per week
- Total number of credits

grades.csv Every line contains the following information

- Student roll number
- Course number
- Grade the student obtained in this course

Disclaimer The grades data is randomly generated and has no bearing with the actual data.

Problem Statement Your task is to:

Read These three files

Transcripts For each student produce the *transcript* (a student's view of the data).

Write Save the above transcript view into respective roll_number.txt file.

Transcript format Your program output should produce the following transcript format:

Name:

Roll Number:

Semester I

Course Number	Course Name	C	Grade
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PH101	Physics - 1	6	CC
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PH110	Physics Lab	3	CD
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Semester II

Course Number	Course Name	C	Grade
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PH101	Physics - 2	6	CD
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MA102	Mathematics-2	6	BB
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	I	II	III ...	VIII
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SPI	7.59	5.86
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CPI	7.59	6.70
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Instructions Adhere to the following

File naming Prepend C/C++ program file names with your roll number. Adhere to the input and output file naming convention as given in the problem description.

Independent efforts You should make an honest and independent effort in obtaining the solution to the above problem. You are also encouraged to bring one data structures and algorithms text book and one programming language text book of your choice.

Discussions with fellow students are not allowed.

Internet Use of internet during lab hours is not allowed.

Evaluation At the end of 17:00 hours, TAs will come and evaluate your program. Leave the lab once your evaluation is completed.

Marking Scheme The evaluation criteria is as follows:

10 Marks For reading three input files

15 Marks For producing for each student semester-wise grades

5 Marks For computing SPI

5 Marks For computing CPI

10 Marks Correct output

5 Marks For producing all students transcripts