



EASTERN UNIVERSITY, SRI LANKA

FIRST YEAR FIRST SEMESTER EXAMINATION IN SCIENCE - 2004/2005

EXTERNAL DEGREE PROGRAMME (May/June 2008)

EXTCS 152 – Practical on Introduction to Programme Design and Programming
(Proper and Repeat)

Answer all questions

Time: 02 hours

Declare a **structure** for a student record consisting of the following fields:

student_name
student_id
subject_1_marks
subject_2_marks
subject_3_marks

(10 marks)

Write a program to keep records for 5 students.

- Read the necessary data from the keyboard for 5 students. Your program should handle the out of range of marks. (15 marks)
- Write a function that calculates the average marks for each student (15 marks)
- Write a function that prints the grade depend on the average value.
 - IF $0 \leq \text{average} \leq 40$
PRINT "F"
 - IF $40 < \text{average} \leq 50$
PRINT "C"
 - IF $50 < \text{average} \leq 70$
PRINT "B"
 - IF $70 < \text{average} \leq 100$
PRINT "A"
 (15 marks)
- Display all **students' details** with **average marks** and the **grade**. (10 marks)
- Write a function that returns the **maximum average** of all 5 students. (15 marks)
- Write a function that returns the **minimum average** of all 5 students. (15 marks)
- Print **maximum average** and **minimum average** of all 5 students. (5 marks)

Example run of the program is illustrated below:

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Enter student 1 name: Ravi
Enter student 1 Id: CS1
Enter Subject 1 marks of student 1: 34
Enter Subject 2 marks of student 1: 56
Enter Subject 3 marks of student 1: 78

Enter student 2 name: Rangan
Enter student 2 Id: CS2
Enter Subject 1 marks of student 2: 45
Enter Subject 2 marks of student 2: 76

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Enter student 3 name: Ramanan
Enter student 3 Id: CS3
Enter Subject 1 marks of student 3: 45
Enter Subject 2 marks of student 3: 95
Enter Subject 3 marks of student 3: 56

Enter student 4 name: Rajan
Enter student 4 Id: CS4
Enter Subject 1 marks of student 4: 76
Enter Subject 2 marks of student 4: 95
Enter Subject 3 marks of student 4: 69

Enter student 5 name: Ragavan
Enter student 5 Id: CS5
Enter Subject 1 marks of student 5: 45
Enter Subject 2 marks of student 5: 76
Enter Subject 3 marks of student 5: 87

Name	ID	Marks 1	Marks 2	Marks 3	Average	Grade
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Ravi	CS1	34	56	78	56	B
Rangan	CS2	45	76	98	73	A
Ramanan	CS3	45	95	56	65.333336	B
Rajan	CS4	76	95	69	80	A
Ragavan	CS5	45	76	87	69.333336	B

Maximum average: 80

Minimum average: 56