

UNIVERSITY OF RUHUNA  
BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY

**Practical 11**

**ICT2132 – Object Oriented Programming Practicum**

1. Create the database and table as instructed below.

- a. MYSQL database name : ict
- b. Table name : marks
- c. Insert data to marks as follows.

Reg No	Quiz 01	Quiz 02	Quiz 03	Quiz 04	Assessment 01	Assessment 02	practical	Theory
ICT001	89.00	72.00	85.00	56.00	67.50	71.75	42.67	37.00
ICT002	35.00	70.00	52.00	35.00	37.50	51.00	7.00	12.00
ICT003	47.00	48.00	64.00	35.00	15.00	79.50	30.33	28.00
ICT004	95.00	94.00	86.00	81.00	98.00	90.25	88.00	77.00
ICT005	63.00	60.00	74.00	42.00	70.00	81.50	52.00	39.25
ICT006	30.00	48.00	62.00	28.00	20.00	78.00	5.00	12.00
ICT007	54.00	48.00	47.00	49.00	35.00	78.25	30.67	41.25
ICT008	51.00	76.00	52.00	42.00	45.00	51.00	22.33	25.50
ICT009	74.00	54.00	65.00	59.00	67.50	89.00	56.00	50.25
ICT010	80.00	76.00	93.00	63.00	58.50	90.25	74.00	62.00
ICT011	65.00	36.00	50.00	35.00	50.00	51.25	9.00	23.50
ICT012	52.00	36.00	31.00	35.00	50.00	80.25	32.67	50.75

Table : marks

2. Create a java program to perform following operations.

- a. A method to calculate and return the average of best 03 quizzes out of 04 quizzes.  
Ex : 89, 72, 85, 56  
Best 03 → 89, 72, 85  
Best 03 average →  $(89+72+85)/3 = 82.00$
- b. A method to calculate and return 10% from the best 03 quizzes average.  
Ex:  $82.00 * (10/100) \rightarrow 8.20$
- c. A method to calculate and return 10% from the Assessment 01.
- d. A method to calculate and return 20% from the Assessment 02.
- e. A method to calculate and return 30% from the Practical.
- f. A method to calculate and return 30% from the Theory.
- g. A method to calculate and return Total marks for a given student.  
Total = 10% + 10% + 20% + 30% + 30%
- h. A method to calculate and return the Grade for the total marks for a given student.  
Refer following ranges.

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Range	Grade
85-100	A+
70-84	A
65-69	A-
60-64	B+
55-59	B
50-54	B-
45-49	C+
40-44	C
35-39	C-
30-34	D+
25-29	D
0-24	E

3. By referring to the Student Handbook and your Level 01 (Semester 01 and Semester 02) results, write a Java program to do following operations starting from part 3.b.
- a. Store your results in “ict” database you have created in Q1.
  - b. Calculate SGPA for your results.
    - i. A method to calculate and return the SGPA for a given semester.
    - ii. A method to calculate and return the CGPA for a given semester.
    - iii. A method to calculate and return the CGPA for whole academic year.