| Time Allowed: 100 Minutes | Course Name: Programming Fundamental Lab |
|---|---|
| Instructor Name : Ms. Romasha Khurshid | |
| Student Roll No: | Section No: |

## Instructions:

- Attempt all questions, read each question completely.
- After completion of exam, return the question paper.
- Your Student ID must be written on the paper.
- In case of any ambiguity, you may make assumption. But your assumption should not contradict any statement in the question paper.
- For Exam submission: Create a folder named "your student-id" i.e. (K20-0100).
- Paste the .c file for each question named as Q1.c, Q2.c and on so in that folder.
- Every question contains equal marks i.e. 05 marks

**Total Marks: 20**

## Question # 1:

Write a C program to generate the following output:

```
A
B B
C C C
D D D D
E E E E
```

## Question # 2:

You have been hired by Finance department. Your first assignment is the analysis of data which contain salaries for every employee in the department, for your convenience each salary amount is preceded by "F" for female or "M" for male. As a first pass in the analysis of this data you have been asked to compute the average income for females and the average income for males. (Take at least 10 data entries).

Hint: Program will prompt for two user inputs one for character and another for salary.

## Question # 3:

Write a program using **Switch-Case** that displays water bill. Your program should prompt the user to enter a character user code, and a real number representing the gallons of water used. The output from your program should include message indicating the type of usage, and the amount of money due from the user. The water rates vary depending on the type of usage. A code of H means home use, a code of C means commercial use, and a code of I means industrial use. Any other code value should be treated as an error.

Water rates are computed as follows:

Code H: Rs. 500 per gallon

Code C: Rs.1000 for the first 1000 gallons used plus Rs. 250 for each additional gallon used

Code I: Rs. 1000.00 if usage does not exceed 500 gallons Rs. 2000.00 if usage is between 500 gallons to 2500 gallons Rs. 3000.00 if 2500 or above gallons are used

## Question #4:

Much of the work of a university administration (in addition to managing teachers, researchers, students, courses, etc.) is to ensure the proper functioning of the university and is particular that the accounting job is well done. Once a year, an annual report of expenditures must be made. All expenses for the year have been recorded and classified in a multitude of files and the sum of all these expenses must now be calculated. But no one knows exactly how many different expenses have been made in the past year!

Your program will have to read a sequence of positive integers and display their sum. We do not know how many integers there will be, but the sequence always ends with the value -1 (which is not an expense, just an end marker).

break