Assignment - 02

1. Electricity Bill Calculation

You are tasked with writing a program to calculate the electricity bill for a household based on the number of units consumed. The electricity rates are as follows:

The first 50 units are charged at a rate of 0.50 taka per unit.
The next 100 units (51 to 150) are charged at a rate of 0.75 taka per unit.
The next 100 units (151 to 250) are charged at a rate of 1.20 taka per unit.
Any units consumed beyond 250 are charged at a rate of 1.50 taka per unit.
Additionally, a 20% surcharge (20% of the calculated bill) is applied to the final bill.

Write a C program that takes the number of electricity units consumed as input and calculates the total electricity bill for the household, including the surcharge. The program should display the total bill amount rounded to two decimal places.

Sample Input	Sample Output
125	97.5
300	354.00

2. Triangle Classification

You need to write a C program that takes input for three pairs of floating number coordinates, representing the vertices of a triangle, and then classifies the triangle as "Equilateral," "Isosceles," "Scalene," or "Invalid" based on its side lengths.

Sample Input	Sample Output
0 0 0 4 4 0	Isosceles
0 0 0 3 4 0	Scalene
-4 0 4 0 0 6.928	Equilateral
1 1 1 2 1 3	Invalid

3. **Month name and Days printing**

   Write a C program to input month number and print the month name and total number of days in month using ***switch…case*** statement.

Sample Input	Sample Output
Enter month number(1-12): 3	March 31 days
Enter month number(1-12): 6	June 30 days
Enter month number(1-12): 2	February 28/29 days
Enter month number(1-12): 11	November 30 days
Enter month number(1-12): 21	Invalid input

Each problem contains **5 marks.** The mark distribution is as follows:

Mark Distribution: **5**

1. Properly taking inputs and saving them. (1)
2. Solving logic and proper implementation. (3)
3. Properly showing outputs. (1)

Submission guideline:

Solve each problem in a single C file. Create a folder with your student ID. Put the 3 source files (only .c files) into the folder. Zip the folder and submit it in **LMS**. If your ID is 12345, the zip file should be 12345.zip.

Deadline: 01-11-2023 (08:00 AM) Please remember this is a strict deadline. Under no circumstances, this deadline will change. **Failure to submit during the deadline will result in zero grades**.

DO NOT COPY from the internet, seniors, batchmates, or any other sources. You are always welcome to discuss and find the solutions together, but you must write your own code. If found out, there will be -100% marks reduction.

DO NOT PUT the question in chatGPT and ask it to write the answer. You may use the tool to learn more about the concepts or take additional help (such as how to use certain methods or how to do certain concepts) but do not directly use it to write code for the problem. If found out, there will be -100% marks reduction.