



# ASSIGNMENT

Submitted to : SURAVI AKHTER

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Course code: 0613-014-1201

Course name: Structured Programming

## Question:

Write a C program to calculate the monthly water bill of a customer based on their water consumption (in litres) and user type (household or commercial). The program should apply different tariffs and surcharges according to the amount of water consumed and the category of the user.

For Household Users (H):

- For consumption up to 5000 litres = BDT 0.10 per litre
- For consumption between 5001 and 20,000 litres = BDT 0.15 per litre
- For consumption above 20,000 litres = BDT 0.25 per litre

For Commercial Users (C):

- Apply the same slab rates as household users.
- Add a 25% surcharge on the total bill.

Sample Input:

User type: C

Consumption: 22000

# Answer:

```
#include <stdio.h>

int main() {
    char userType;
    float consumption, bill = 0, surcharge = 0, total = 0;

    printf("Enter user type (H for Household / C for Commercial): ");
    scanf(" %c", &userType);

    printf("Enter water consumption in litres: ");
    scanf("%f", &consumption);

    if (consumption <= 5000)
        bill = consumption * 0.10;
    else if (consumption <= 20000)
        bill = (5000 * 0.10) + ((consumption - 5000) * 0.15);
    else
        bill = (5000 * 0.10) + (15000 * 0.15) + ((consumption - 20000) * 0.25);

    if (userType == 'C' || userType == 'c') {
        surcharge = bill * 0.25;
        total = bill + surcharge;
    } else if (userType == 'H' || userType == 'h') {
        total = bill;
    } else {
        printf("Invalid user type.\n");
        return 0;
    }

    printf("\n--- Water Bill ---\n");
    printf("User Type: %s\n", (userType == 'C' || userType == 'c') ? "Commercial" : "Household");
    printf("Consumption: %.2f litres\n", consumption);
    printf("Total Bill: BDT %.2f\n", total);

    return 0;
}
```

## Output:

Output	Clear
<pre>Enter user type (H for Household / C for Commercial): c Enter water consumption in litres: 22000  --- Water Bill --- User Type: Commercial Consumption: 22000.00 litres Total Bill: BDT 4062.50  === Code Execution Successful ===</pre>	