

## **C-Lab-day-5**

1 :Write a C program using the ternary operator to calculate the electricity bill for a given number of units consumed by a customer.

For the first 100 units, the rate is Rs. 3.00 per unit.

For any additional units beyond 100, the rate is Rs. 4.50 per unit.

Example 1: Units consumed less than or equal to 100

Sample Input: units consumed : 75

Sample Output: The total electricity bill is: Rs. 225.00

Example 2: Units consumed more than 100

Sample Input: units consumed: 150

Sample Output: The total electricity bill is: Rs. 525.00

Example 3: Units consumed exactly 0

Sample Input: units consumed: 0

Sample Output: The total electricity bill is: Rs. 0.00

**ANS:**

```
#include <stdio.h>
```

```
int main() {
```

```

int unitsConsumed;

float totalBill;

// Input the number of units consumed
printf("Enter the units consumed: ");
scanf("%d", &unitsConsumed);

// Calculate the total bill using ternary operator
totalBill = (unitsConsumed <= 100) ? (unitsConsumed *
3.0) : (100 * 3.0 + (unitsConsumed - 100) * 4.5);

// Output the result
printf("The total electricity bill is: Rs. %.2f\n", totalBill);

return 0;
}

```

2 : Write a C program that takes an integer as input and checks if it is a positive, negative, or zero.

Display the appropriate message as output without using the ternary operator.

**ANS:**

```

#include <stdio.h>

int main() {
    int number;

    // Prompt the user for input
    printf("Enter an integer: ");

```

```

scanf("%d", &number);
// Check the number and display the appropriate message
if (number > 0) {
    printf("The number is positive.\n");
} else if (number < 0) {
    printf("The number is negative.\n");
} else {
    printf("The number is zero.\n");
}
return 0;
}

```

3 :Develop a program on a payroll system for a company. The system needs to calculate the salary of an employee based on their employee type ('M' for manager or 'H' for HR employee) and their basic salary.

For managers, their salary should be increased by 10% as a performance bonus and for HR increased by 5% . Write a C program that takes the employee type and basic salary as inputs and calculates the increased salary using the ternary operator.

ANS:

```
#include <stdio.h>
```

```

int main() {
    char employeeType;
    float basicSalary, increasedSalary;

    // Prompt the user for input
    printf("Enter employee type (M for Manager, H for HR): ");
    scanf(" %c", &employeeType); // Note the space before %c
    to consume any whitespace

    printf("Enter basic salary: ");
    scanf("%f", &basicSalary);

    // Calculate the increased salary using the ternary operator
    increasedSalary = (employeeType == 'M' || employeeType
    == 'm')
        ? basicSalary * 1.10 // 10% increase for
managers
        : (employeeType == 'H' || employeeType == 'h')
        ? basicSalary * 1.05 // 5% increase for HR
employees
        : basicSalary; // No increase for invalid
types

    // Display the results
    if (employeeType == 'M' || employeeType == 'm') {
        printf("Increased salary for Manager: %.2f\n",
increasedSalary);
    }
}

```

```

    } else if (employeeType == 'H' || employeeType == 'h') {
        printf("Increased salary for HR Employee: %.2f\n",
increasedSalary);
    } else {
        printf("Invalid employee type entered. No salary
increase.\n");
    }
    return 0;
}

```

4 :Write a Cprogram to print sum of N natural numbers without using loops.

Sample input : int n = 10

Sample output : 55

ANS:

```
#include <stdio.h>
```

```
int main() {
```

```
    int n,sum;
```

```
    printf("Enter the num:");
```

```
    scanf("%d",&n);
```

```
    sum=n*(n+1)/2;
```

```
printf("sum of the all natural numbers:%d",sum);  
return 0;  
}
```