

## **Lab Task:**

**Q.1** Write a C program to check whether a number is even or odd. If the number is even, print "This number is even", otherwise print "This number is odd".

**Q.2** Write a C program to input a character from the user and check whether the given character is a vowel or a consonant, using if-else

**Q.3** Create a calculator asking for operator (+ or – or \* or /) and operands and performs calculation according to the user input using switch statement.

**Q.4** Write a C program to calculate the income tax for an individual based on the following slabs:

Income up to 250,000: No tax.

Income between 250,001 and 500,000: 5% tax.

Income between 500,001 and 1,000,000: 20% tax.

Income above 1,000,000: 30% tax. Print the total income, tax amount, and net income after tax.

**Q.5** Write a C program to input a year from the user and check whether it is a leap year or not. A year is a leap year if:

It is divisible by 400, or

It is divisible by 4 but not divisible by 100. Use an if-else statement to solve this.

**Q.6** Write a C program to input a student's marks and assign a grade based on the following criteria:

Marks  $\geq 90$ : Grade A

Marks  $\geq 80$  and  $< 90$ : Grade B

Marks  $\geq 70$  and  $< 80$ : Grade C

Marks  $\geq 60$  and  $< 70$ : Grade D

Marks  $< 60$ : Grade F Use a switch statement to implement this grading system.

**Q.7** Write a C program to calculate the electricity bill based on the following tariff:

For the first 100 units: \$1.5 per unit.

For the next 100 units (101 to 200): \$2.0 per unit.

For units above 200: \$3.0 per unit.

A surcharge of 15% is applied to the total amount if it exceeds \$500.

Use if-else to check the usage and calculate the final bill, including the surcharge if applicable.

**Q.8** Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer.

The charges are as follow:

Unit Charge/Unit

Up to 199 @16.20

200 and above but less than 300 @20.10

300 and above but less than 500 @27.10

500 and above @35.90

If the bill exceeds Rs. 18000 then a surcharge of 15% will be charged on top of the bill.

**Test Input:**

*1001 //Customer ID*

*James //Customer Name*

*800 //Units Consumed*

**Expected Output:**

*Customer ID: 1001*

*Customer Name: James*

*Units Consumed: 800*

*Amount Charges @Rs. 35.90 per unit: 28720*

*Surcharge Amount: 4308*

*Net Amount Paid by the Customer: 33028.00*

**Q.9** Given a positive integer denoting n, do the following:

- a. If  $1 < n \leq 9$ , print lowercase English words corresponding to the numbers  
e.g. (one for 1, two for 2)
- b. If  $n > 9$  print greater than 9.