**National University of Computer and Emerging Sciences**



**Programming Fundamentals**

**Lab Manual 4**

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**Objective:**

1. **Introduction to C++**
2. **If/else statement**
3. **While Loop**

# PROBLEM 1

A customer in a store is purchasing five items. The prices of the five items are:

Price of item 1 = Rs 12.95

Price of item 2 = Rs 24.95

Price of item 3 = Rs 6.95

Price of item 4 = Rs 14.95

Price of item 5 = Rs 3.95

Write a program that holds the prices of the five items in five variables. Display

* each items price,
* the subtotal of the sale,
* The amount of sales tax, assume the sales tax is 6%.
* and the total: Total Sale = Sub Total of Sale + Sales Tax

# PROBLEM 2



Write a program that prompts the user to enter a number. Your task is to determine whether a number is positive or negative. If a number is positive, then check whether it is an even number or odd number, if the number is negative then simply print the message “Negative”.

**Sample Output:**

Enter a number: 7

It is positive odd number.

Enter a number: 96

It is a positive even number

Enter a number: -8

It is a negative number

# PROBLEM 3

**(Nested If/else**) Design a C++ program that takes the year from user as input and prints days of all months, for February check the leap year and print days accordingly.

# PROBLEM 4

Write a program that gets three number from user for integer variables suppose a,b and c. if a is non zero find out it is common divisor of b and c using nested if-else condition.

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| **Input**    a = 2 b = 6 c = 8    **Output**    a is common divisor of b and c |

# PROBLEM 5

Write a program using while loop that prints the numbers from 1 to 100. You should also print the word ‘tea’ after every even number. Output will be 12tea34tea ……You cannot use if/if-else statement for this problem.

# PROBLEM 6

Write a program that keep taking input numbers from user and terminate the program when user enters -1. Your task is to determine either user enter any number 3 time in a row or not.

# For example

1. 4 5 1 6 3 1 2 1 -1 Return false

1. 5 4 3 1 3 4 1 6 6 6 4 3 1 -1

Return True as 6 entered 3 times in a row.

# PROBLEM 7

Write a program that takes N numbers and display percentage of positive numbers, percentage of zeros and percentage of negative numbers. (Note that the value of N will be entered by the user)