C# Lab Assignments

Lab 1: Multiplication table of a given number

Assignment:

Write a C# program to print the multiplication table of a given number using the for loop.

Lab:2 Display a right-angled triangle

Assignment:

Write a C# program to display a right-angled triangle pattern using nested for loops.

Lab 3: Sum of all even numbers between 1 and 100

Assignment:

Write a C# program to calculate the sum of all even numbers between 1 and 100 using a while loop.

Lab 4: Multiplication table from 1 to 5

Assignment:

Write a C# program to print a multiplication table from 1 to 5 using nested while loops.

Lab 5: Print Positive Number

Assignment:

Write a C# program to keep asking the user to enter a positive number and print it. The program should stop when the user enters a negative number.

Lab 6: Create Menu Driven Calculator

Assignment:

Write a C# program to create a basic menu-driven calculator using nested do-while loops. The calculator should continue to ask the user for two numbers and an operation (+, -, *, /) until the user chooses to exit.

Lab 7: Print All Numbers From 1 to 100

Assignment:

Write a C# program to print all numbers from 1 to 100. Use the continue statement to skip numbers that are divisible by 3, and use the break statement to stop the loop if the number exceeds 50.

Lab 8: Sum of Odd Numbers

Assignment:

Write a C# program to calculate the sum of all odd numbers between 1 and 100 using a for loop.

Lab 9: Factorial Calculation

Assignment:

Write a C# program to calculate the factorial of a given number using a while loop.

Lab 10: Number Pyramid

Assignment:

Write a C# program to print a number pyramid using a nested while loop. Example for 5 rows:

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

Lab 11: Guess the Number Game

Assignment:

Write a C# program that generates a random number between 1 and 100. The user has to guess the number, and the program should give hints ("too high" or "too low") until the user guesses correctly. Use a nested do-while loop to allow the user to play multiple rounds.

Lab 12: Simple Calculator

Assignment:

Write a C# program to create a simple calculator using a switch-case statement. The program should handle addition, subtraction, multiplication, and division.

Lab 13: Sum of Digits

Assignment:

Write a C# program that accepts a number from the user and calculates the sum of its digits using a do-while loop.

Lab 14: Finding the Largest Number

Assignment:

Write a C# program that accepts 10 numbers from the user and finds the largest number using a for loop.

Lab 15: Sum of Squares

Assignment:

Write a C# program to calculate the sum of squares of all numbers from 1 to a user-provided number using a while loop.

Lab 16: Countdown Timer

Assignment:

Write a C# program to simulate a countdown timer from 10 to 1 using a do-while loop, displaying each second.

Lab 17: Finding the First Multiple of 5

Assignment:

Write a C# program to find and print the first multiple of 5 in a given list of numbers. Use the break statement to exit the loop once a multiple of 5 is found.

Lab 18: Print Non-Multiples of 3

Assignment:

Write a C# program to print numbers from 1 to 20, but skip numbers that are divisible by 3 using the continue statement.

Lab 19: Checking for Palindrome

Assignment:

Write a C# program to check if a given number is a palindrome using a while loop.

Lab 20: Average of Positive Numbers

Assignment:

Write a C# program to calculate the average of positive numbers entered by the user. The program should stop when the user enters a negative number using a do-while loop.

Lab 21: Reverse a Number

Assignment:

Write a C# program to reverse a given number using a do-while loop.

Lab 22: Menu-Driven String Operations

Assignment:

Write a C# program that presents a menu to the user for various string operations:

1. Reverse the string
2. Convert to uppercase
3. Convert to lowercase
4. Find the length of the string
   Use a switch-case statement to implement this.

Lab 23: Skip Multiples of 4

Assignment:

Write a C# program to print numbers from 1 to 50 but skip numbers that are divisible by 4 using the continue statement.

Lab 24: Fibonacci Sequence

Assignment:

Write a C# program to print the first 10 numbers in the Fibonacci sequence using a for loop.

Lab 25: Find All Armstrong Numbers

Assignment:

Write a C# program to find all Armstrong numbers between 1 and 500 using a while loop. (An Armstrong number is a number that is equal to the sum of the cubes of its digits).

Lab 26: Menu-Driven Number System Conversion

Assignment:

Write a C# program to create a menu-driven system for number conversions:

1. Binary to Decimal
2. Decimal to Binary
3. Decimal to Hexadecimal
   Use a switch-case statement to implement this.

Lab 27: Reverse a String

Assignment:

Write a C# program to reverse a given string using a for loop.

Lab 28: Count Vowels and Consonants in a String

Assignment:

Write a C# program to count the number of vowels and consonants in a given string using a for loop.

Lab 29: Find Maximum and Minimum

Assignment:

Write a C# program to find the maximum and minimum of 5 numbers entered by the user using a for loop.

Lab 30: Count Digits of a Number

Assignment:

Write a C# program to count the number of digits in a given number using a while loop.