

Lab 03

Loops (While, For, Do-While)

Lab Objectives

The objective of this exercise is to become familiar with the concept of iteration, also known as looping. We shall also investigate 3 main types of loops namely While loop, For loop, Do-While loop and the difference between them.

While Loop

Task: 01

Write a program that accepts a positive integer and displays its factors. For example, if the user enters 12, the program should display 2, 3, 4 and 6.

Task: 02

Write a program that takes two numbers from the user and displays their LCM.

Sample Run:

Enter First Number: 9

Enter 2nd Number: 6

The LCM of 9 and 6 is 18

For Loop

Task: 01

In Fibonacci series, every new term is generated by adding the previous two terms as shown below. Write a program that displays first 15 terms of the Fibonacci series.

0,1,1,2,3,5,

Task: 02

Write a program that takes two numbers from the user and displays their GCD/HCF.

Sample Run:

Enter First Number: 9

Enter 2nd Number: 6

The GCD of 9 and 6 is 3

Do-While Loop

Task:

Write a program that performs a survey tally on beverages. The program should prompt for the next person until a sentinel value of -1 is entered to terminate the program. Each person participating in the survey should choose their favorite beverage from the following list:

1. Coffee
2. Tea
3. Coke
4. Orange Juice

Sample Run:

Please input the favorite beverage of person #1: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
4

Please input the favorite beverage of person #2: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
1

Please input the favorite beverage of person #3: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
3

Please input the favorite beverage of person #4: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
1

Please input the favorite beverage of person #5: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
1

Please input the favorite beverage of person #6: Choose 1, 2, 3, or 4 from the above menu or -1 to exit the program
-1

The total number of people surveyed is 5. The results are as follows:

Beverage	Number of Votes

Coffee	3
Tea	0
Coke	1
Orange Juice	1