SWT11022: Practical for Fundamentals of Programming

Department of Information & Communication Technology Faculty of Technology

South Eastern University of Sri Lanka

Time: - 09.30 am – 12.30 pm Lab Sheet 07

Title: Introduction to the Loop

Objective:

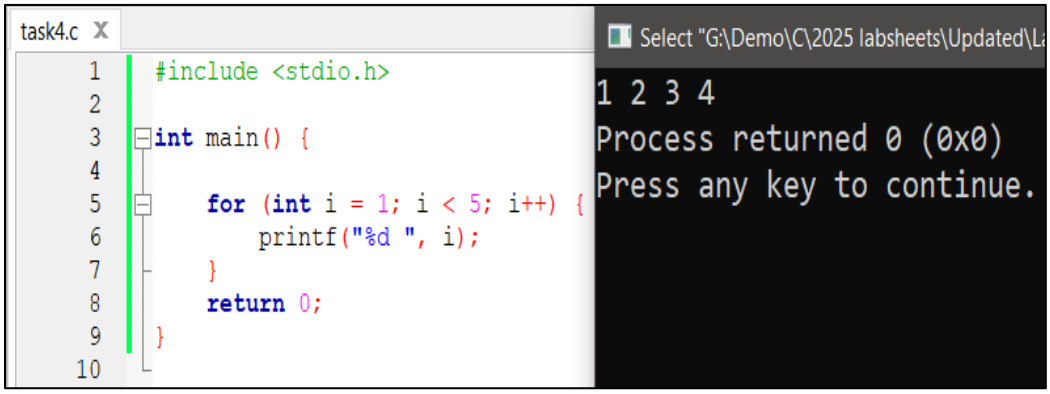
- Understand and practice the for loop.
- Understand and practice the while loop.
- Understand and practice the do-while loop.
- Understand and practice loop control statements.

Practical 1: for Loop

Steps:

1. for Loop:

- Use a for loop to print the numbers from 1 to 5.
- Initialize the loop control variable, set the condition, and specify the increment.



Practical 2: while Loop

Steps:

1. **while Loop:**
   - Use a while loop to print even numbers from 2 to 10.
   - Set up a condition to check if a number is even.

task4.c

```c
#include <stdio.h>

int main() {
    int number = 2;

    while (number <= 10) {
        printf("%d ", number);
        number += 2;
    }

    return 0;
}
```

```
"G:\Demo\C\2025 labsheets\Updated\LabWeek
2 4 6 8 10
Process returned 0 (0x0)
Press any key to continue.
```

Practical 3: do-while Loop

Steps:

1. **do-while Loop:**
   - Use a do-while loop to ask the user for a positive number.
   - Continue asking until a positive number is provided. int input;

task4.c

```c
#include <stdio.h>

int main() {
    int input;

    do {
        printf("Enter a positive number: ");
        scanf("%d", &input);
    } while (input <= 0);

    printf("You entered a positive number: %d\n", input);

    return 0;
}
```

```
"G:\Demo\C\2025 labsheets\Updated\LabWeek03\ta
Enter a positive number: -3
Enter a positive number: 0
Enter a positive number: 12
You entered a positive number: 12

Process returned 0 (0x0)   executio
Press any key to continue.
```

Practical 4: Loop Control Statements

1. **Using break Statement:**
   - Use a for loop to find the first even number in a sequence.
   - Use the break statement to exit the loop when an even number is found.

task4.c

```c
#include <stdio.h>

int main() {
    int firstEven = 0;

    // Loop to find the first even number in a sequence
    for (int i = 1; ; i++) {
        if (i % 2 == 0) {
            firstEven = i;
            break; // Exit loop when the first even number is found
        }
    }

    printf("The first even number is: %d\n", firstEven);

    return 0;
}
```

```
"G:\Demo\C\2025 labsheets\Updated\Lab"
The first even number is: 2

Process returned 0 (0x0)   ex
Press any key to continue.
```

2. **Using continue Statement:**
   - Use a for loop to print odd numbers in a sequence.
   - Use the continue statement to skip even numbers.

task4.c

```c
#include <stdio.h>

int main() {
    // For loop to print odd numbers from 1 to 10
    for (int i = 1; i <= 10; i++) {
        if (i % 2 == 0) {
            continue; // Skip even numbers
        }
        printf("%d ", i);
    }

    return 0;
}
```

```
"G:\Demo\C\2025 labsheets\Updated\
1 3 5 7 9
Process returned 0 (0x0)
Press any key to continue.
```

Tasks

1. **Write a C program to print all alphabets from a to z using for loop.**

2. **Write a C program to print all odd number between 1 to 100 using while loop.**

3. **Write a C program to print natural numbers from 1 to 10 using do...while loop.**

4. **Write a C program that uses a while loop to continuously take input from the user until the user enters a negative number. Use the break statement to exit the loop when the user enters a negative number.**

5. **Write a C program to print all even numbers from 1 to 20 using a for loop. Use the continue statement to skip the odd numbers.**

Report Submission Guidelines

- Submit the Report by 24/03/2025.
- Late submissions will not be accepted.
    - Report Structure Practical No
    - Date of Submission
    - Title
    - Objective of the practical.
    - Exercise
    - Challenges
    - Conclusion
    - References