

National University of Computer and Emerging Sciences



Lab Manual
for
Programming Fundamentals

Course Instructor	Ms. Arooj Khalil
Lab Instructor(s)	Ms. Saleha Batool Ms. Nimra Abbas
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Department of Computer Science
FAST-NU, Lahore, Pakistan

Problem 1:

Write a program in C++ to find the frequency of each digit in a given integer.

Problem 2:

Write a program that displays the following using while loop.

Output:

```
4      4      4      4
3      3      3
2      2
1
```

Problem 3:

Write a code in C++ that generates the following output using do while.

Output:

```
1 1
1 2
1 3
2 1
2 2
2 3
3 1
3 2
3 3
```

Problem 4:

Write a C++ program that displays the pyramid star pattern using for loop.

Output:

```
  *
 ***
*****
*****
.....
```

Problem 5:

Write a C++ program that displays the heart pattern with your name message inside it using for loop.

Output

The screenshot shows a Windows command prompt window with the title bar "C:\Documents and Settings\admin\Desktop\program.exe". The window contains a large heart shape formed by asterisks (*). Inside the heart, the text "Happy Valentine's Day" is displayed. At the bottom of the window, the text "Process returned 0 (0x0) execution time : 0.141 s" and "Press any key to continue." is visible.