



NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

FUNDAMENTALS OF PROGRAMING

LAB MANUAL-4

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CLASS : ME_15

SECTION : C

Task 1

```
#include <iostream>

using namespace std;

int main() {

    int sum = 0;

    int number;

    cout << "Please enter 10 natural numbers:" << endl;

    for (int i = 0; i < 10; i++) {

        cin >> number;

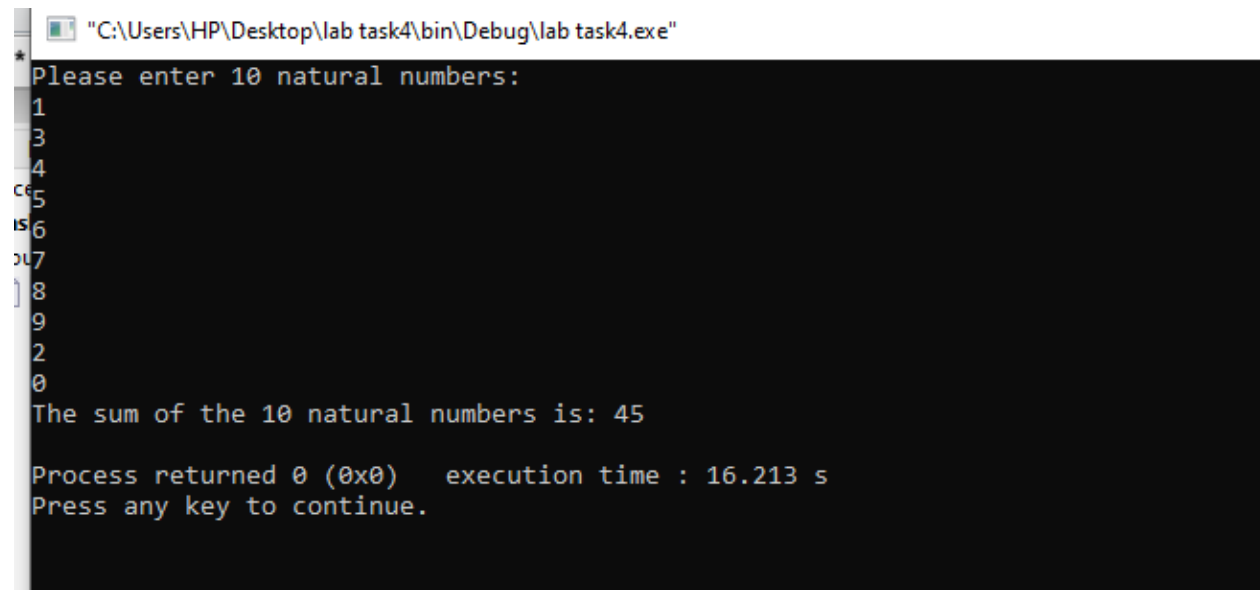
        sum += number;

    }

    cout << "sum of ten number is equal to " << sum << endl;

    return 0;

}
```



```
"C:\Users\HP\Desktop\lab task4\bin\Debug\lab task4.exe"
*
Please enter 10 natural numbers:
1
3
4
5
6
7
8
9
2
0
The sum of the 10 natural numbers is: 45
Process returned 0 (0x0) execution time : 16.213 s
Press any key to continue.
```

Task 2

```
#include <iostream>

int main() {

    int input;

    std::cout << "Enter a number: ";

    std::cin >> input;


    for (int k= 1; k <= 10; k++) {

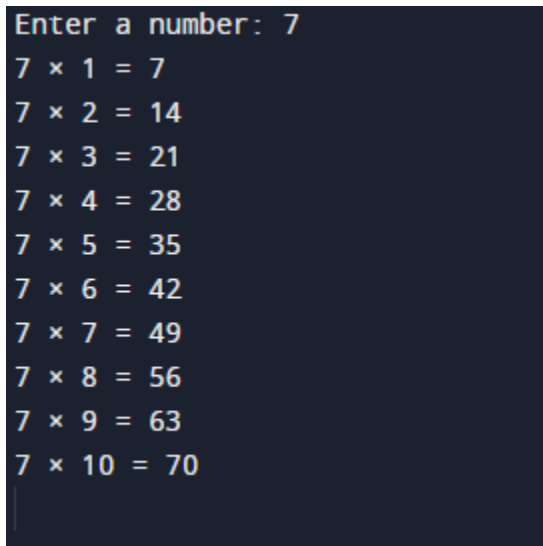
        int result = input * k;

        std::cout << input << " x " << k << " = " << result << std::endl;

    }

    return 0;

}
```

A screenshot of a terminal window with a dark background. It shows the output of the C++ program. The first line is the prompt "Enter a number: 7". The following ten lines show the multiplication of 7 by integers from 1 to 10, formatted as "7 x 1 = 7", "7 x 2 = 14", etc., up to "7 x 10 = 70".

```
Enter a number: 7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
```

Task 3

```
#include <iostream>

int main() {
    int number;

    int factorial = 1;

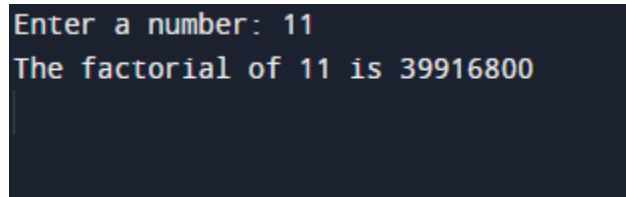
    std::cout << "Enter a number: ";

    std::cin >> number;

    for (int f = 1; f <= number; f++) {
        factorial *= f;
    }

    std::cout << "The factorial of " << number << " is " << factorial << std::endl;

    return 0;
}
```

A screenshot of a terminal window with a dark background. It shows the program's output: "Enter a number: 11" followed by "The factorial of 11 is 39916800".

```
Enter a number: 11
The factorial of 11 is 39916800
```

Task 4

```
#include <iostream>

int main() {
    int limit;

    std::cout << "Enter any limit:";

    std::cin >> limit;

    int first = 3;
    int second = 5;

    std::cout << "Fibonacci sequence upto given number " << limit << " ";

    std::cout << first << " " << second << " ";

    while (first + second <= limit) {
        int next = first + second;
        std::cout << next << " ";

        first = second;
        second = next;
    }

    std::cout << std::endl;

    return 0;
}
```

```
Enter any limit:34
Fibonacci sequence upto given number 34 3 5 8 13 21 34
|
```