

Fundamentals of Programming

Lab Task: 4

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Task:1

Code:

```
#include <iostream>
using namespace std;

int main() {
    int summation,num,i;
    while(i<10)
    {cout<<"Enter any Number..."<<endl;
      cin>>num;
      summation=summation+num;
      i++;

    }
    cout<<"The Sum of the First Ten Natural Numbers is:"<<summation<<endl;

    return 0;
}
```

Output:

```
Enter any Number...
6
Enter any Number...
7
Enter any Number...
5
Enter any Number...
8
Enter any Number...
3
Enter any Number...
8
Enter any Number...
3
Enter any Number...
9
Enter any Number...
5
Enter any Number...
6
The Sum of the First Ten Natural Numbers is:60
```

Task: 2

Code:

```
#include <iostream>

using namespace std;

int main() {

    int number, table, ans;

    cout<<"Enter any Number"<<endl;

    cin>>number;

    for(table=1;table<=10;table++)

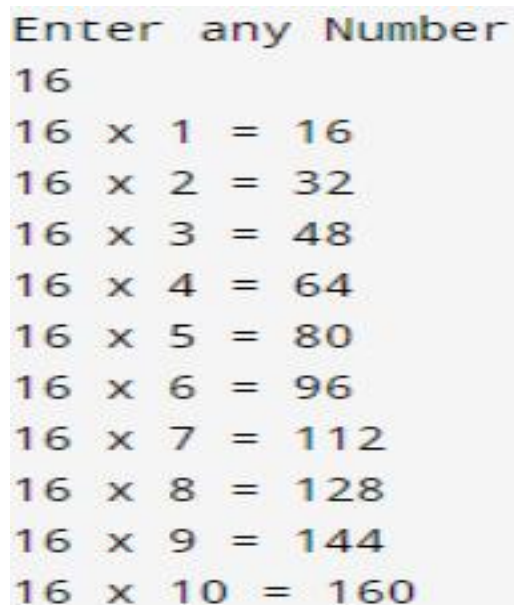
    {ans=number*table;

    cout<<number<<" x "<<table<<" = "<<ans<<endl;

    }

    return 0;
```

}Output:



The screenshot shows the output of the C++ program. It starts with the prompt "Enter any Number" followed by the input "16". Then, it displays a multiplication table for the number 16, with rows for multipliers from 1 to 10. Each row shows the number 16, a multiplication sign, the multiplier, an equals sign, and the result.

```
Enter any Number
16
16 x 1 = 16
16 x 2 = 32
16 x 3 = 48
16 x 4 = 64
16 x 5 = 80
16 x 6 = 96
16 x 7 = 112
16 x 8 = 128
16 x 9 = 144
16 x 10 = 160
```

Task: 3

Code:

```
#include <iostream>

using namespace std;

int main()
{
    float f,num;

    cout<<"Enter any Number : "<<endl;

    cin>>num;

    for(f=num-1;f>=1;f--)

    {num*=f;}

    cout<<"The Factorial is : "<<num<<endl;


    return 0;
```

Output:

```
Enter any Number :
6
The Factorial is :720
```

Task: 4

Code:

```
#include <iostream>
using namespace std;

int main() {

    int fib;
    cout << "Terms of the Fibonacci Sequence..";
    cin >> fib;

    float a = 0, b = 1, x;

    cout << "Fibonacci Sequence: "<<endl;

    for (int f = 0; f < fib; ++f) {
        if (f <= 1) {
            x = f;
        } else {
            x = a + b;
            a = b;
            b = x;
        }
        cout << x <<endl;
    }

    return 0;
}
```

Output:

```
Terms of the Fibonacci Sequence..11
Fibonacci Sequence:
0
1
1
2
3
5
8
13
21
34
55
.
```