



FUNDAMENTALS OF PROGRAMMING

Home TASKS

ME-15-C

TASK-1

Write a program in C++ to find LCM of any two numbers using HCF.

```
1 #include <iostream>
2
3 int calculateLCM(int N1, int N2) {
4     int lcm = N1 > N2 ? N1 : N2;
5     while (true) {
6         if (lcm % N1 == 0 && lcm % N2 == 0) {
7             break;
8         }
9         lcm++;
10    }
11    return lcm;
12 }
13
14 int main() {
15     int N1, N2;
16     std::cout << "Enter two numbers: ";
17     std::cin >> N1 >> N2;
18     int lcm = calculateLCM(N1, N2);
19     std::cout << "The LCM of " << N1 << " and " << N2 << " is: " << lcm << std
        :endl;
20     return 0;
21 }
22
```

```
/tmp/35nyI3Xn54.o
Enter two numbers: 4
3
The LCM of 4 and 3 is: 12
```

TASK-2

Write a program in C++ to find out the sum of an Arithmetic progression series

```
1 #include<iostream>
2 using namespace std;
3
4 int main() {
5     int firstTerm, commonDifference, numTerms;
6     cout << "Enter the first term of the series: ";
7     cin >> firstTerm;
8     cout << "Enter the common difference: ";
9     cin >> commonDifference;
10    cout << "Enter the number of terms: ";
11    cin >> numTerms;
12
13    int sum = 0;
14    for (int i = 0; i < numTerms; i++) {
15        int term = firstTerm + (i * commonDifference);
16        sum += term;
17    }
18
19    cout << "The sum of the arithmetic progression series is: " << sum << endl;
20
21    return 0;
22 }
```

```
/tmp/35nyI3Xn54.o
Enter the first term of the series: 5
Enter the common difference: 4
Enter the number of terms: 8
The sum of the arithmetic progression series is: 152
```

TASK-3

Write a program in C++ to create a diamond.

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

```
int main() {
    int n;
    cout << "Enter the number of rows: ";
    cin >> n;

    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= n - i; j++) {
            cout << " ";
        }
    }
}
```

```
/tmp/BCE9WBx4KC.o
Enter the number of rows: 4
*
***
*****
*****
*****
***
*
```

```

    for (int k = 1; k <= 2 * i - 1; k++) {
        cout << "*";
    }
    cout << endl;
}

for (int i = n - 1; i >= 1; i--) {
    for (int j = 1; j <= n - i; j++) {
        cout << " ";
    }
    for (int k = 1; k <= 2 * i - 1; k++) {
        cout << "*";
    }
    cout << endl;
}

return 0;
}

```

TASK-4

Write a program in C++ to convert a decimal number to binary number.

```

1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int dec, bin[32], i = 0;
6
7      cout << "Enter a decimal number: ";
8      cin >> dec;
9
10     while (dec > 0) {
11         bin[i] = dec % 2;
12         dec = dec / 2;
13         i++;
14     }
15
16     cout << "Binary representation: ";
17     for (int j = i - 1; j >= 0; j--) {
18         cout << bin[j];
19     }
20
21     return 0;
22 }

```

```

/tmp/BCF9WBx4KC.o
Enter a decimal number: 18
Binary representation: 10010

```