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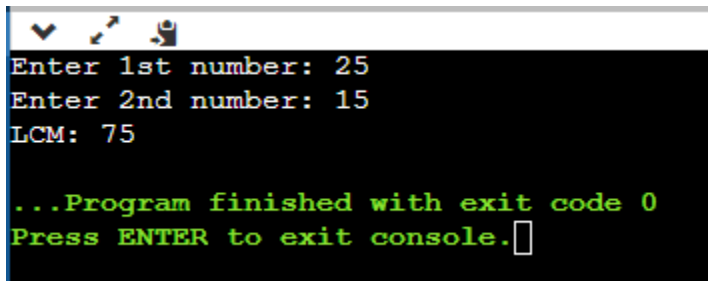
Home Task # 5

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TASK 1

```
#include <iostream>
using namespace std;
int main(){
    int num1, num2, lcm, hcf, bigger;
    cout << "Enter 1st number: ";
    cin >> num1;
    cout << "Enter 2nd number: ";
    cin >> num2;
    if (num1 >= num2){
        bigger = num1;
    }
    else{
        bigger = num2;
    }
    for (int i = 1 ; i <= bigger; ++i){
        if (num1 % i == 0 && num2 % i == 0){
            if (i != 1){
                hcf = i;
            }
            if (i == 1){
                hcf = 1;
            }
        }
    }

    lcm = ((num1 * num2) / hcf);
    cout << "LCM: " << lcm;
    return 0;
}
```

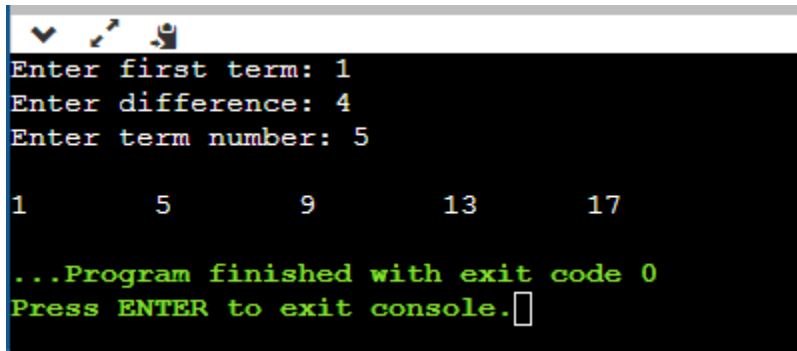
A screenshot of a console window showing the execution of a C++ program. The window has a standard Windows title bar and a toolbar with icons for back, forward, and search. The output text is as follows:

```
Enter 1st number: 25
Enter 2nd number: 15
LCM: 75

...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 2

```
#include <iostream>
using namespace std;
int main()
{
    double a, d, n,i,sum,j;
    char flag = 'y';
    cout <<"Enter first term: ";
    cin >> a;
    cout <<"Enter difference: ";
    cin >> d;
    cout <<"Enter term number: ";
    cin >> n;
    cout<<endl;
    for (int i = a; i <= (a + (n - 1) * d); i = i + d){
        sum = sum + i;
        cout << i << "\t";
    }
    return 0;
}
```

A screenshot of a console window showing the execution of a C++ program. The program prompts the user to enter the first term, difference, and term number. The user enters 1, 4, and 5 respectively. The program then outputs the first five terms of an arithmetic sequence: 1, 5, 9, 13, and 17. The console window has a dark background and a light border. The text is in a monospaced font. The prompt text is in a light blue color, and the output text is in a light green color. The program has finished with exit code 0, and the user is prompted to press ENTER to exit the console.

```
Enter first term: 1
Enter difference: 4
Enter term number: 5

1      5      9      13      17

...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 3

```
#include <iostream>
using namespace std;
int main()
{
    int mid_row;
    cout << "Enter lines till half of diamond: ";
    cin >> mid_row;
    cout << endl;
    for (int i = 1; i <= mid_row; ++i){
        for (int j = 1; j <= (mid_row - i) ; ++j){
            cout << " ";
        }
        for (int k = 1; k <= (2 * i - 1) ; ++k){
            cout << "*";
        }
        cout << endl;
    }

    for (int i = mid_row - 1; i >= 1; --i){
        for (int j = 1; j <= (mid_row - i) ; ++j){
            cout << " ";
        }
        for (int k = 1; k <= (2 * i - 1) ; ++k){
            cout << "*";
        }
        cout << endl;
    }
    return 0;
}
```

```
Enter lines till half of diamond: 5

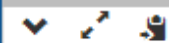
  *
 ***
*****
*****
*****
*****
  *
 ***
  *
```

Task 4

```
#include <iostream>
using namespace std;
int main()
{
    int num, remainder_, quotient, multiplier = 1, binary = 0;
    string reverse = "";
    cout << "Enter number: ";
    cin >> num;
    while (num != 0){
        quotient = num / 2;
        remainder_ = num % 2;
        binary = binary + ( remainder_ * multiplier);
        num = quotient;
        multiplier = multiplier * 10;
    }
    cout << binary;
    return 0;
}
```

main.cpp

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int num, remainder_, quotient, multiplier = 1, binary = 0;
6     string reverse = "";
7     cout << "Enter number: ";
8     cin >> num;
9     while (num != 0){
10         quotient = num / 2;
11         remainder_ = num % 2;
12         binary = binary + ( remainder_ * multiplier);
13         num = quotient;
14         multiplier = multiplier * 10;
15     }
16     cout << binary;
17     return 0;
18 }
19
```



input

Enter number: 47

101111

...Program finished with exit code 0

Press ENTER to exit console.