Prepared By:

Name	CMS ID	Class
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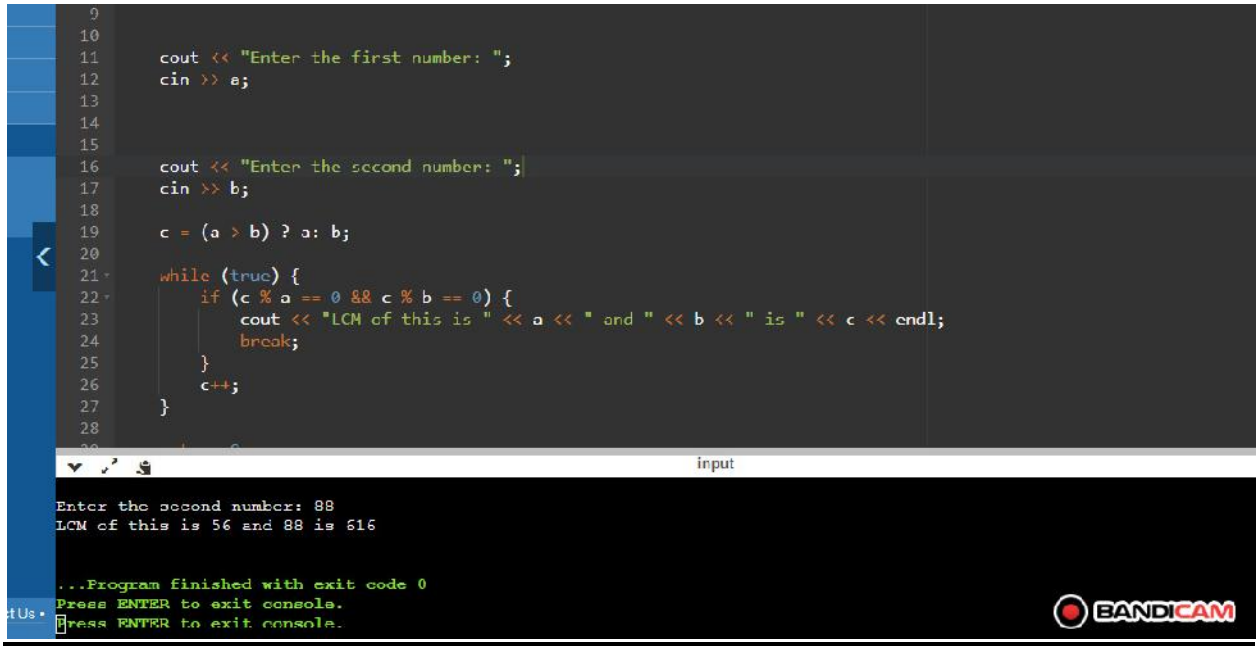
1. Write a program in C++ to find LCM of any two numbers using HCF.

Input:

```
#include <iostream>


using namespace std;


int main() {



   int a, b, c;



   cout << "Enter the first number: ";

   cin >> a;




   cout << "Enter the second number: ";

   cin >> b;
```

```
    c = (a > b) ? a: b;


    while (true) {
        if (c % a == 0 && c % b == 0) {
            cout << "LCM of " << a << " and " << b << " is " << c << endl;
            break;
        }
        c++;
    }


    return 0;
}
```

Output



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

Input

```
#include <iostream>

using namespace std;


int main() {

   int x;

   double y;

   double d;


   cout << "Enter the number of terms to be place in the series: ";

   cin >> x;


   cout << "Enter the first term of the series i.e (a): ";

   cin >> y;


   cout << "Enter the common difference of the series i.e (d): ";

   cin >> d;
```

```
    double sum = (x / 2.0) * (2 * y + (x - 1) * d);

    cout << "Sum of the arithmetic progression series is given by: " << sum << endl;

    return 0;
}
```

Output

```
    double d;

    cout << "Enter the number of terms to be place in the series: ";
    cin >> x;

    cout << "Enter the first term of the series i.e (a): ";
    cin >> y;

    cout << "Enter the common difference of the series i.e (d): ";
    cin >> d;


    double sum = (x / 2.0) * (2 * y + (x - 1) * d);

    cout << "Sum of the arithmetic progression series is given by: " << sum << endl;

    return 0;
}

input
Enter the number of terms to be place in the series: 10
Enter the first term of the series i.e (a): 6
Enter the common difference of the series i.e (d): 5
Sum of the arithmetic progression series is given by: 285

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

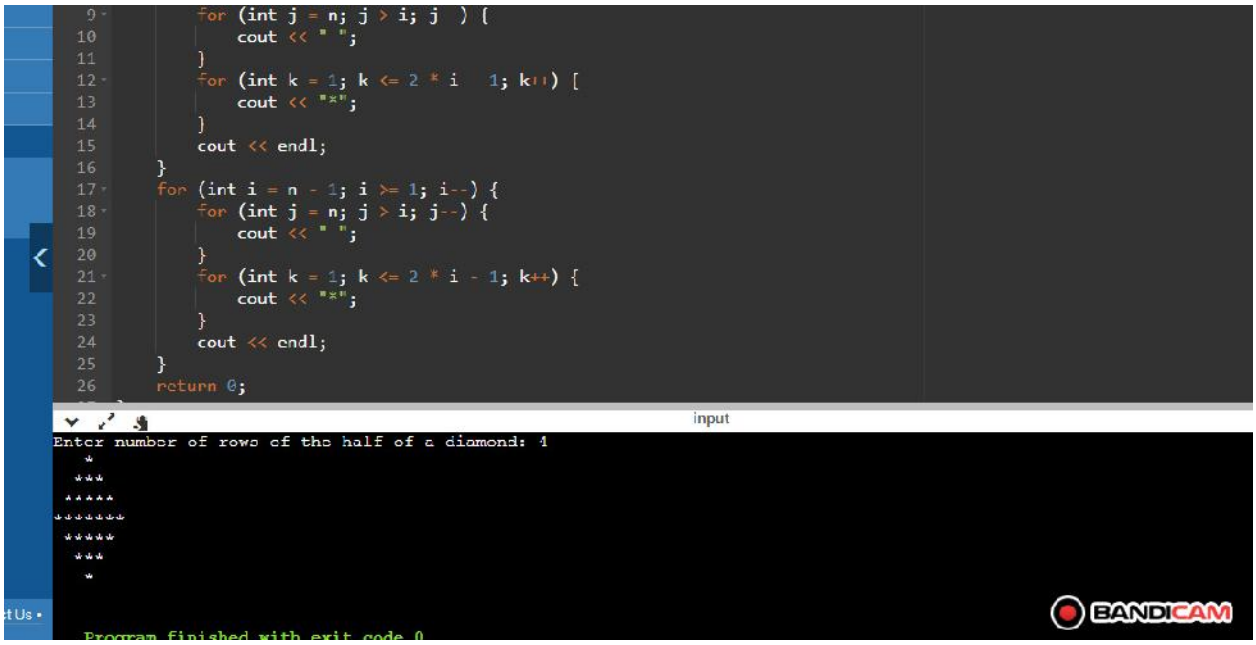
3. Write a program in C++ to create a diamond.

Input

```
#include <iostream>

using namespace std;


int main() {

   int n ;

   cout <<"Enter number of rows of the half of a diamond: ";

   cin >>n;

       for (int i = 1; i <= n; i++) {

      for (int j = n; j > i; j--) {

         cout << " ";

      }

      for (int k = 1; k <= 2 * i - 1; k++) {

         cout << "*";

      }

      cout << endl;

   }

   for (int i = n - 1; i >= 1; i--) {

      for (int j = n; j > i; j--) {

         cout << " ";
```

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

Output:



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

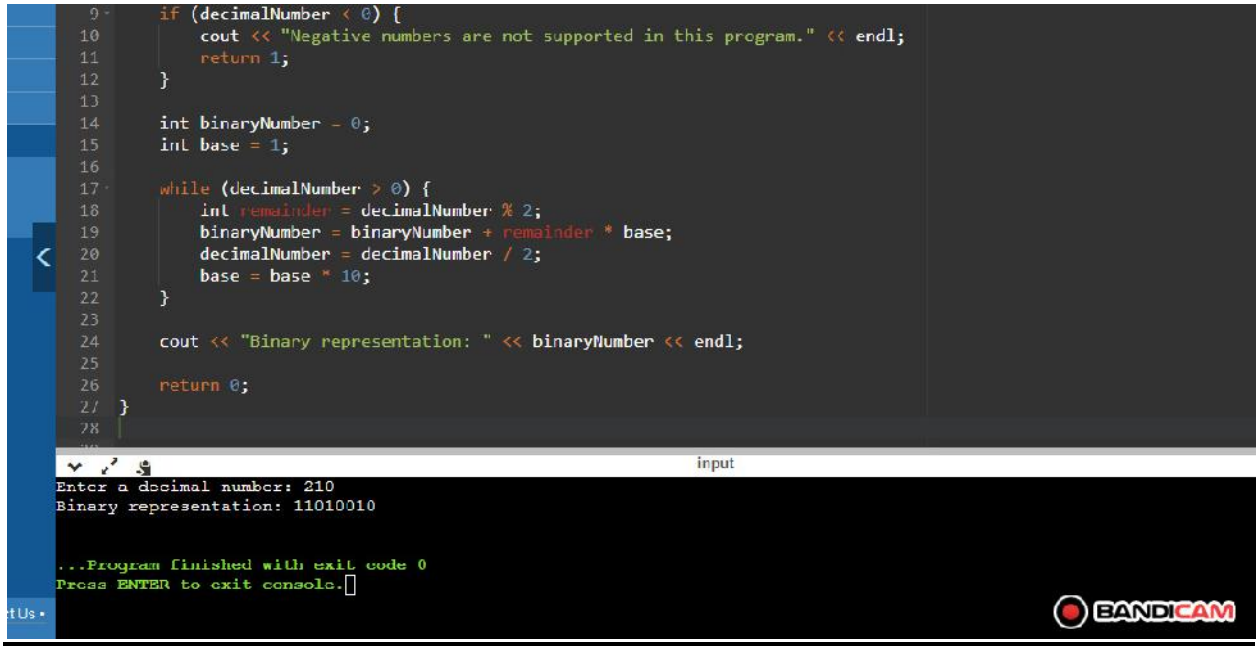
Input

```
#include <iostream>
```

```
using namespace std;


int main() {
   int dnumber;
   cout << "Enter a decimal number: ";
   cin >> dnumber;


   if (dnumber < 0) {
      cout << "Negative numbers are not supported in this program." << endl;
      return 1;
   }


   int bnumber = 0;
   int base = 1;


   while (dnumber > 0) {
      int remainder = dnumber % 2;
      bnumber = bnumber + remainder * base;
      dnumber = dnumber / 2;
      base = base * 10;
   }


   cout << "Binary representation: " << bnumber << endl;


   return 0;
```

```
}
```

Output:


if (decimalNumber < 0) {
cout << "Negative numbers are not supported in this program." << endl;
return 1;
}
int binaryNumber = 0;
int base = 1;
while (decimalNumber > 0) {
int remainder = decimalNumber % 2;
binaryNumber = binaryNumber + remainder * base;
decimalNumber = decimalNumber / 2;
base = base * 10;
}
cout << "Binary representation: " << binaryNumber << endl;
return 0;
}
input
Enter a decimal number: 210
Binary representation: 11010010
...Program finished with exit code 0
Press ENTER to exit console.
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