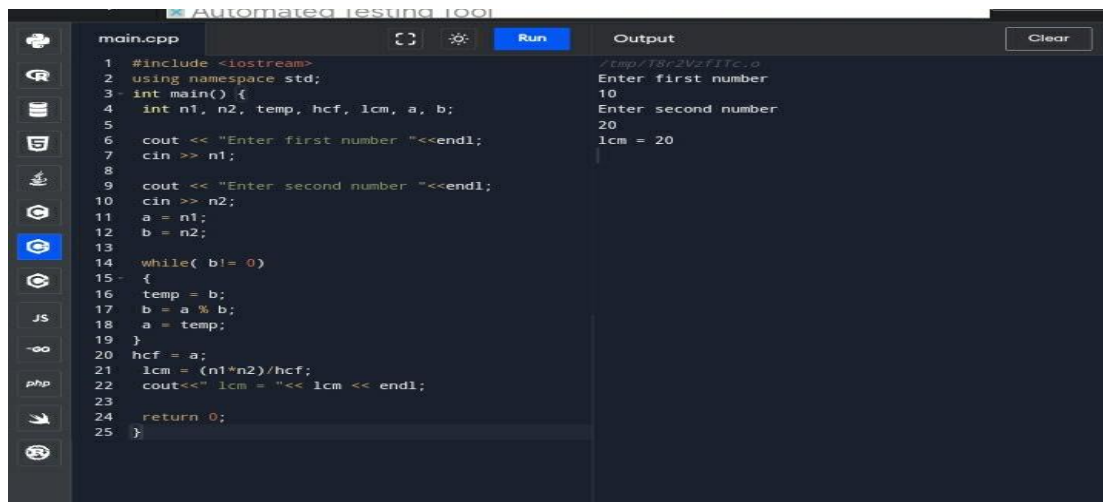


## LAB MANUAL 5 (HOME TASK)

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- Q1:



The screenshot shows a C++ IDE with a file named 'main.cpp'. The code calculates the Least Common Multiple (LCM) and Highest Common Factor (HCF) of two numbers. The output window shows the program's execution with inputs 10 and 20, resulting in LCM = 20.

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int n1, n2, temp, hcf, lcm, a, b;
5
6     cout << "Enter first number "<<endl;
7     cin >> n1;
8
9     cout << "Enter second number "<<endl;
10    cin >> n2;
11    a = n1;
12    b = n2;
13
14    while( b!= 0)
15    {
16        temp = b;
17        b = a % b;
18        a = temp;
19    }
20    hcf = a;
21    lcm = (n1*n2)/hcf;
22    cout<<" lcm = "<< lcm << endl;
23
24    return 0;
25 }
```

Output:

```
/tmp/T8r2VzF1Tc.o
Enter first number
10
Enter second number
20
lcm = 20
```

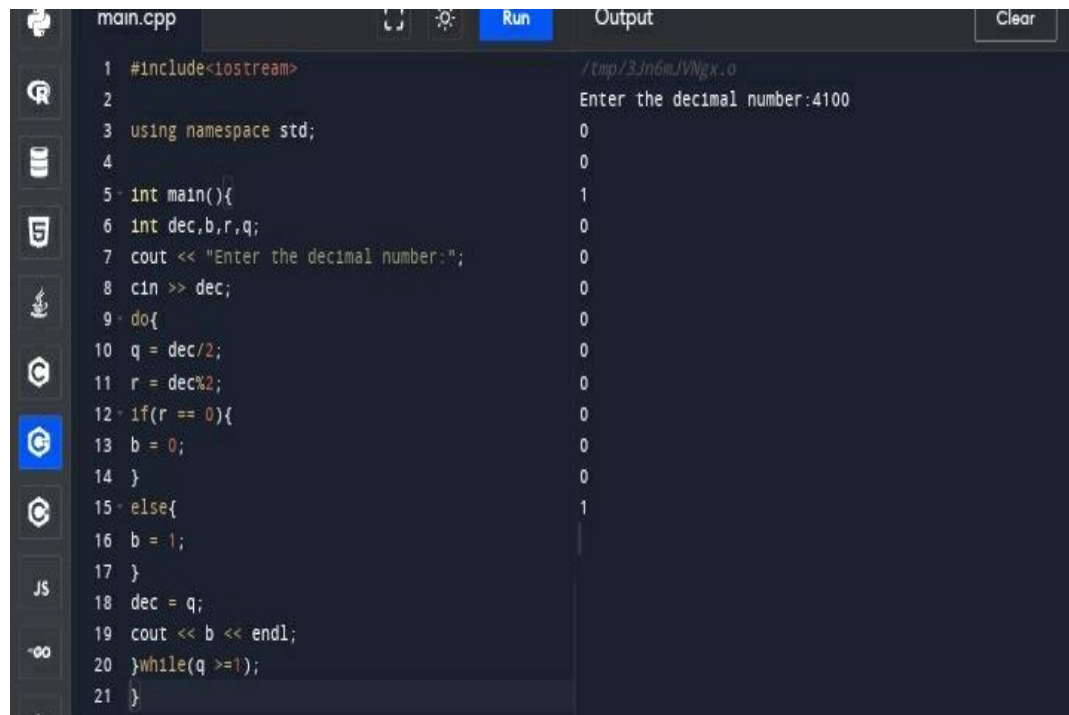
- Q2:

```
main.cpp                                Output                                Clear
1  #include <iostream>                    /tmp/gH0tHiaj4A.o
2  using namespace std;                  Enter the first term(a)
3  int main()                             5
4  {                                     Enter the common difference(d)
5      int a, d, n;                       10
6      float sum;                         Enter the number of terms(n)
7      cout << "Enter the first term(a) "<< endl;                3
8      cin >> a;                           sum of the arithmetic progression series = 30
9      cout << "Enter the common difference(d) "
    << endl;
10     cin >> d; cout << "Enter the number of terms(n)
    "<< endl;
11     cin >> n;
12     sum = (n/2) * (2 * a + (n - 1) * d);
13     cout << " sum of the arithmetic progression
    series = " << sum << endl;
14     return 0;
15 }
```

- Q3:

```
main.cpp Run Output Clear
1 #include<iostream> /tmp/3Jn6mJVNgx.o
2 using namespace std;
3 int main(){
4     for (int i = 0; i<=4; i++){
5         for (int j = 0; j<=4-i; j++){
6             cout<<" ";
7         }
8         for(int k = 1; k<= 1+i; k++){
9             cout << " * " ;
10        }
11        cout<< endl;
12    }
13    for (int i = 0; i<=3; i++){
14        for (int j = 0; j<=1+i; j++){
15            cout<<" ";
16        }
17        for(int k = 0; k<= 3-i; k++){
18            cout << " * " ;
19        }
20        cout<< endl;
21    }}
```

- Q4:



```
main.cpp Run Output Clear
1 #include<iostream> /tmp/3Jn6mJVNgx.o
2 Enter the decimal number:4100
3 using namespace std; 0
4 0
5 int main(){ 1
6 int dec,b,r,q; 0
7 cout << "Enter the decimal number:"; 0
8 cin >> dec; 0
9 do{ 0
10 q = dec/2; 0
11 r = dec%2; 0
12 if(r == 0){ 0
13 b = 0; 0
14 } 0
15 else{ 1
16 b = 1;
17 }
18 dec = q;
19 cout << b << endl;
20 }while(q >=1);
21 }
```