



## **LAB MANUAL 05**

### **HOME TASKS**

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**Q01 Write a program in C++ to find LCM of any two numbers using HCF.**

**CODE:**

```
#include<iostream>

using namespace std;

int main() {

    int num1, num2, rem,product,lcm;

    cout<<"Enter the two numbers: "<<endl;

    cin>>num1>>num2;

    product=num1*num2;

    while(num2!=0) {

        rem=num1%num2;

        num1=num2;
```

```
num2=rem;

}

cout<<"The H.C.F of the two numbers is: "<<num1<<endl;

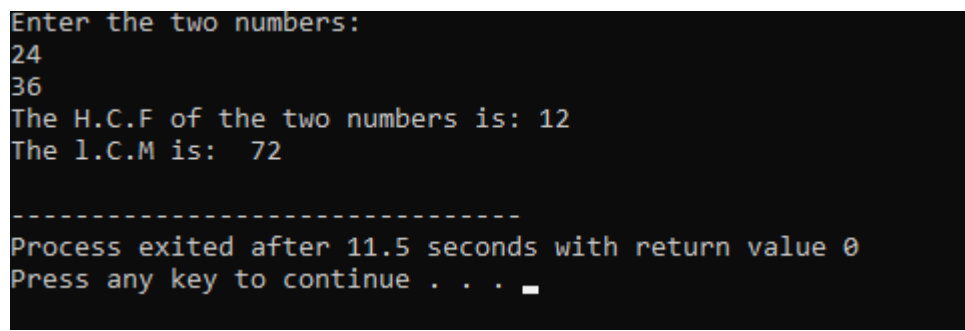
lcm=product/num1;

cout<<"The I.C.M is: "<<lcm<<endl;

return 0;

}
```

## RESULT:

A screenshot of a terminal window showing the execution of a C++ program. The user enters two numbers, 24 and 36. The program outputs the H.C.F as 12 and the L.C.M as 72. It then shows a separator line and a message indicating the process exited after 11.5 seconds with a return value of 0, followed by a prompt to press any key to continue.

```
Enter the two numbers:
24
36
The H.C.F of the two numbers is: 12
The L.C.M is: 72

-----
Process exited after 11.5 seconds with return value 0
Press any key to continue . . .
```

**Q02 Write a program in C++ to find out the sum of an Arithmetic progression series.**

## CODE:

```
#include<iostream>

using namespace std;

int main() {

    int a1,a2,d,n,an,S,series;

    cout<<"Enter the first two number of series: "<<endl;

    cin>>a1>>a2;

    cout<<"Enter the number of terms in the series:

"<<endl;

    cin>>n;

    d=a2-a1;

    an=a1+(n-1)*d;

    cout<<"The commond difference (d) is: "<<d<<endl;

    cout<<"The last term of AP is: "<<an<<endl;
```

$S = (n * (a_1 + a_n)) / 2;$

```
for(int i=0;i<n;i++){
```

```
    series=a1+(i*d);
```

```
    cout<<series<<" ";
```

```
}
```

```
cout<<"="<<S<<endl;
```

```
return 0;
```

```
}
```

## RESULT:

```
Enter the first two number of series:
1
3
Enter the number of terms in the series:
7
The common difference (d) is: 2
The last term of AP is: 13
1+3+5+7+9+11+13+=49

-----
Process exited after 12.58 seconds with return value 0
Press any key to continue . . .
```

**Q03 Write a program in C++ to create a diamond.**

## CODE:

```
#include<iostream>

using namespace std;

int main(){

    int n;

    cout<<"Enter the number of rows: ";

    cin>>n;

    for(int l=1;l<=n;l++){
```

```
for(int s=1;s<=n-l;s++ ){

    cout<<" ";

}

for(int a=1;a<=2*l-1;a++){

    cout<<"*";

}

cout<<endl;

}

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

    for(int s=1;s<=n-l;s++ ){

        cout<<" ";

    }

    for(int a=1;a<=2*l-1;a++){

        cout<<"*";
```

```

    }

    cout<<endl;

}

return 0;

}

```

```

    }

    cout<<endl;

}

return 0;

}

```

```

    }

    cout<<endl;

}

return 0;

}

```

```

    }

    cout<<endl;

}

return 0;

}

```

```

    }

    cout<<endl;

}

return 0;

}

```

## RESULT:

```
Enter the number of rows: 8
      *
     ***
    *****
   ********
  **********
 **********
 **********
 **********
 **********
 **********
  **********
   ********
    *****
     ***
      *
```

-----

Process exited after 5.309 seconds with return value 0  
Press any key to continue . . .



**Q04 Write a program in C++ to convert a decimal number to binary number.**

**CODE:**

```
#include<iostream>

using namespace std;

int main() {

    int number,rem;

    cout<<"Enter the number: ";

    cin>>number;

    while(number > 0) {

        rem=number % 2;

        cout<<rem;

        number/=2;

    }
```

```
    return 0;  
  
}
```

## RESULT:

```
Enter the number: 27  
11011  
-----  
Process exited after 5.024 seconds with return value 0  
Press any key to continue . . .
```