School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamental of Programing

Home task # 07

Course Instructor: Dr Jawad Khan

Lab Instructor: Muhammad Affan

Student Name: **AATIKA KAMRAN**

CMS ID: **464185**

DATE:

21/10/2023

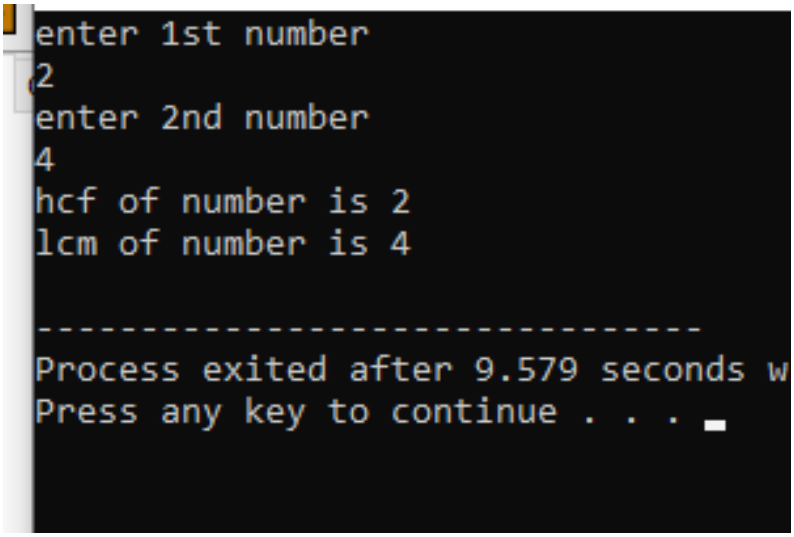
Task 1

```cpp
#include <iostream>
using namespace std;
int main ()
{
    int x,y,hcf,lcm,i;
    cout<<"enter 1st number"<<endl;
    cin>>x;
    cout<<"enter 2nd number"<<endl;
    cin>>y;
    for (i=1;i<=x||i<=y;i++) {
        if  (x%i==0&&y%i==0) {
        hcf=i;
        }

    }
    cout<<"hcf of number is "<<hcf<<endl;
    lcm=(x*y)/hcf;
        cout<<"lcm of number is "<<lcm<<endl;
        return 0;

}
```

Output



Task 2

```
//
{
    int x, n, d, y, sum = 0;
    cout<<"Enter the first term of the A.P. series: ";
    cin>>x;
    cout<<"Enter the number of terms for the A.P. series: ";
    cin>>n;
    cout<<"Enter the common difference of the A.P. series: ";
    cin>>d;

    y = x + (n-1)*d;
    cout<<"The sum of the Arithmetic Progression series is: ";
    while(x<=y)
    {
        sum +=x;
        x= x + d;
    }
    cout<<sum<<endl;

    return 0;
}
```

Output

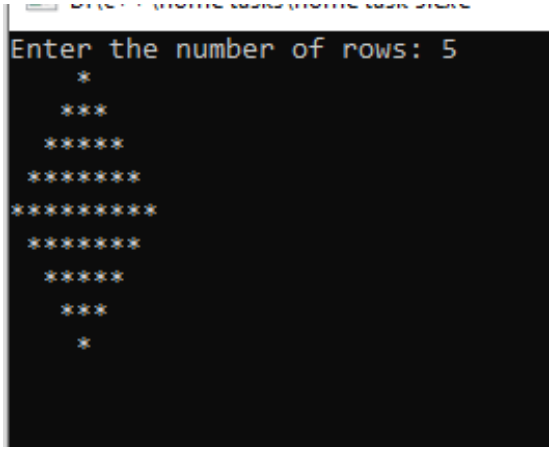
```
Enter the first term of the A.P. series: 2
Enter the number of terms for the A.P. series: 4
Enter the common difference of the A.P. series: 2
The sum of the Arithmetic Progression series is: 20

--------------------------------
Process exited after 13.36 seconds with return value 0
Press any key to continue . . .
```

Task 3

```
{
    int i, j, row_num, space;
    cout<<"Enter the number of rows: ";
    cin>>row_num;
    space = row_num-1;
    for(i=1; i<=row_num; i++)
    {
        for(j=1; j<=space; j++)
            cout<<" ";
        space--;
        for(j=1; j<=(2*i-1); j++)
            cout<<"*";
        cout<<endl;
    }
    space = 1;
    for(i=1; i<=(row_num-1); i++)
    {
        for(j=1; j<=space; j++)
            cout<<" ";
        space++;
        for(j=1; j<=(2*(row_num-i)-1); j++)
            cout<<"*";
        cout<<endl;
    }
    cout<<endl;
    return 0;
```

Output



Task 4

```
{
  int n, bin = 0;
  int rem, i = 1;
  cout << "Enter a decimal number: ";
  cin >> n;
  cout <<n<< " in decimal = ";
  while (n!=0)
  {
    rem = n % 2;
    n /= 2;
    bin += rem * i;
    i *= 10;
  }
  cout<<bin<< " in binary" << endl ;
  return 0;

}
```

Output

```
Enter a decimal number: 7
7 in decimal = 111 in binary

--------------------------------
Process exited after 10.22 seconds with return value 0
Press any key to continue . . .
```