

FUNDAMENTAL OF PROGRAMMING

HOME TASK 5

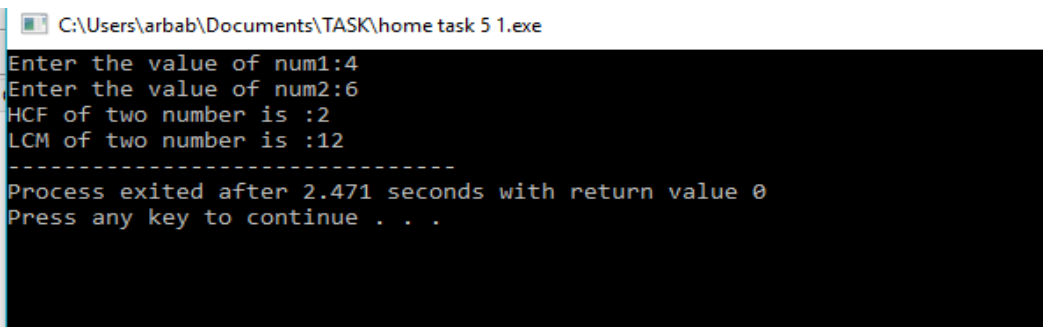
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TASK 1

```
#include<iostream>
using namespace std;
int main()
{
    int num1,num2,num(0),x(2),f,g,LCM;
    cout<<"Enter the value of num1:";
    cin>>num1;
    cout<<"Enter the value of num2:";
    cin>>num2;
    f=num1;
    g=num2;
    if(num1>num2)
    {
        num1=num2;
        num2=f;
    }
    else
    {
        num2=g;
    }

    while(x<=num2)
    {
        if(num1%x==0 && num2%x==0)
        {
            num=num+x;
            num1=num1/x;
            num2=num2/x;
        }
        else
        {
            x++;
        }
    }

    if(num==0)
    {
        cout<<"hcf does not exist for these numbers" <<endl;
        LCM=f*g;
        cout<<"LCM of given numbers is :"<<LCM;
    }
    else{
        cout<<"HCF of two number is :"<<num<<endl;
        LCM=(f*g)/num;
        cout<<"LCM of two number is :"<<LCM;}
    return 0;
}
```



```
C:\Users\arbab\Documents\TASK\home task 5 1.exe
Enter the value of num1:4
Enter the value of num2:6
HCF of two number is :2
LCM of two number is :12
-----
Process exited after 2.471 seconds with return value 0
Press any key to continue . . .
```

TASK 2

```
#include<iostream>
using namespace std;
int main()
{
    int a1,a,d,x(1),n,sum;
    cout<<"Enter the value of first term in arithmetic progression:";
    cin>>a1;
    cout<<"Enter the difference in arithmetic progression:";
    cin>>d;
    cout<<"Enter the number of terms in arithmetic progression:";
    cin>>n;
    a=a1;
    while(x<n)
    {
        a=a+d;
        x++;
    }
    cout<<" "<<endl;
    cout<<"Value of last term is:"<<a<<endl;
    sum=a1+a;
    sum=n*sum;
    sum=sum/2;
    cout<<"Sum of arithmetic progression is:"<<sum;
    return 0;
}
```

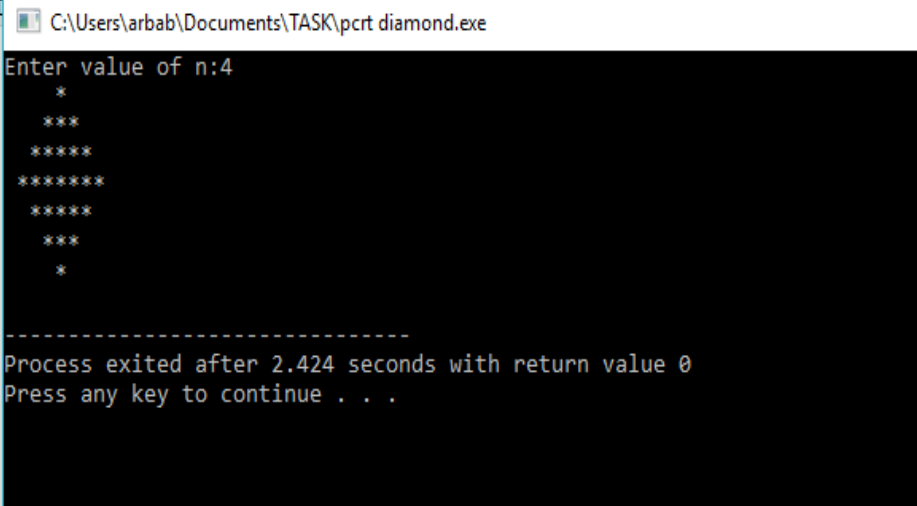
C:\Users\arbab\Documents\TASK\home task 5 2.exe

```
Enter the value of first term in arithmetic progression:3
Enter the difference in arithmetic progression:2
Enter the number of terms in arithmetic progression:7

Value of last term is:15
Sum of arithmetic progression is:63
-----
Process exited after 6.088 seconds with return value 0
Press any key to continue . . .
```

TASK 3

```
#include<iostream>
using namespace std;
int main()
{
    int n,k(0),i,j;
    cout<<"Enter value of n:";
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=n-i+1;j++)
        {
            cout<<" ";
        }
        for(int j=1;j<=i+k;j++)
        {
            cout<<"*";
        }
        k++;
        cout<<endl;
    }
    for(int i=n-1;i>=1;i--)
    {
        for(int j=1;j<=n-i+1;j++)
        {
            cout<<" ";
        }
        for(int j=1;j<=2*i-1;j++)
        {
            cout<<"*";
        }
        cout<<endl;
    }
}
```




```
C:\Users\arbab\Documents\TASK\pcrt diamond.exe
Enter value of n:4
 *
 ***
 *****
 *******
 *****
 ***
 *

-----
Process exited after 2.424 seconds with return value 0
Press any key to continue . . .
```

TASK 4

```
#include<iostream>
using namespace std;
int main()
{
    int dec,bin(0),x,y,z(1);
    cout<<"Enter the number in decimal number system:";
    cin>>dec;
    if(dec==0)
    {
        bin=dec;
    }
    else{
        while(dec>0)
        {
            y=dec%2;
            dec=dec/2;
            x=y*z;
            bin=bin+x;
            z*=10;
        }
    }
    cout<<"Value of number in binary form is :"<<bin;
    return 0;
}
```

 C:\Users\arbab\Documents\TASK\home task 5 4.exe

Enter the number in decimal number system:34

Value of number in binary form is :100010

Process exited after 2.682 seconds with return value 0

Press any key to continue . . .