



# NUST

NATIONAL UNIVERSITY  
OF SCIENCES & TECHNOLOGY

**Department:**

**“School of mechanical and  
manufacturing engineering”**

**Fundamental of programming:**

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**Section:** ME-15 B

**DATE:** 01Nov, 2023.

**Submitted to:** Sir. Affan

**Task#1:**

```
#include <iostream>

using namespace std;

int main()
{
    int x, y, greater, HCF, LCM;
    cout<<"insert first number : ";
    cin>>x;
    cout<<"insert 2nd number : ";
    cin>>y;
    if (x>y) {
        greater=x;}
    else{
        greater=y;
    }
    for (int i = 1; i<=greater; i++) {
        if (x%i==0&&y%i==0) {
            HCF = i;
        }
    }
    LCM = (x*y)/HCF;}
    cout<<"the LCM of "<<x<<" and "<<y<<" is "<<LCM;
```

```

}
C:\Users\khurram\OneDrive - National University of Sciences & Technology\Documents\home task 5.exe
insert first number : 56
insert 2nd number : 86
the LCM of 56 and 86 is 2408
-----
Process exited after 22.91 seconds with return value 0
Press any key to continue . . .

```

## Task#2:

```

#include <iostream>
using namespace std;
int main()
{
    int a, n, d, Sum;
    cout<<"insert first term of arithmetic series: ";
    cin>>a;
    cout<<"insert number of terms AP series: ";
    cin>>n;
    cout<<"Enter the difference of AP series: ";
    cin>>d;
    Sum = (n/2)*(2*a+((n-1)*d));
    cout<<"Sum of AP series is "<<Sum;
}

```

```

C:\Users\khurram\OneDrive - National University of Sciences & Technology\Documents\home task 5.exe
insert first term of arithmetic series: 4
insert number of terms AP series: 13
Enter the difference of AP series: 3
Sum of AP series is 264
-----
Process exited after 23.05 seconds with return value 0
Press any key to continue . . .

```

## Task#3:

```

#include <iostream>

#include <string>

using namespace std;

```

```

int main()
{
    int s, i, j;
    for ( i = 1; i<=9; i+=2)
    { s= 9-i;
    for ( j = 1; j <= s/2; j++)
    { cout<<" ";
    }
    for ( j = 1; j <= i; j++)
    { cout<<"*";
    }
    cout<<endl;
    }
    for ( i = 7; i>=1; i-=2)
    { s = 9-i;
    for ( j = 1; j <= s/2; j++)
    { cout<<" ";
    }
    for ( j = 1; j <= i; j++)
    { cout<<"*";
    }
    cout<<endl;}
}

```

**Output:**

```
C:\Users\khurram\OneDrive - National University of Sciences & Technology\Documents\home task 5.exe

*
***
*****
*****
*****
*****
*****
***
*

-----
Process exited after 0.8428 seconds with return value 0
Press any key to continue . . .
```

#### **Task#4:**

```
#include<iostream>

#include <string>

using namespace std;

int main()

{

int remainder, quotient,a;

string b;

cout<<"insert the decimal number: ";

cin>>a;

quotient = a;

while(quotient != 0) {

remainder = quotient % 2;

quotient /= 2;

if (remainder == 1)

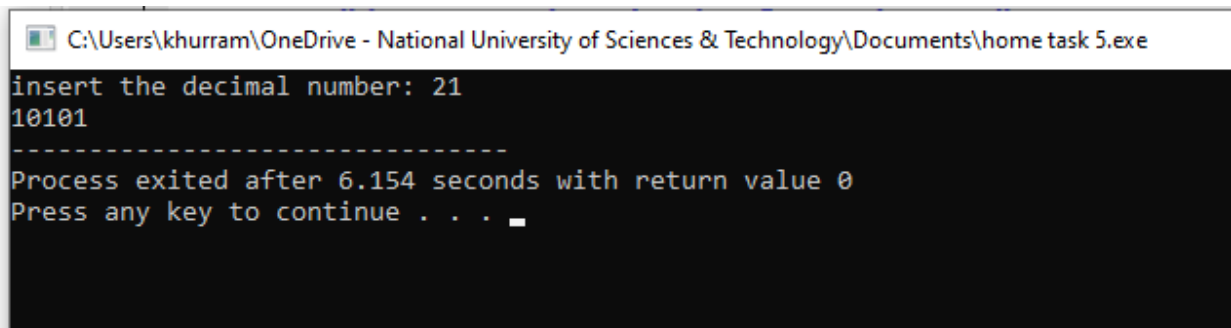
{ b = '1' + b;}

else {

b = '0' + b;}
```

```
}
```

```
cout<<b;}
```



The screenshot shows a Windows command prompt window with the title bar "C:\Users\khurram\OneDrive - National University of Sciences & Technology\Documents\home task 5.exe". The prompt displays the text "insert the decimal number: 21" followed by the output "10101". A dashed line separates the output from the status message "Process exited after 6.154 seconds with return value 0". The prompt then shows "Press any key to continue . . . " with a cursor.

```
C:\Users\khurram\OneDrive - National University of Sciences & Technology\Documents\home task 5.exe
insert the decimal number: 21
10101
-----
Process exited after 6.154 seconds with return value 0
Press any key to continue . . .
```