

FUNDAMENTALS OF PROGRAMMING

LAB MANUAL 5

HOME TASK

ABDUL MOIZ 464834 SECTION B

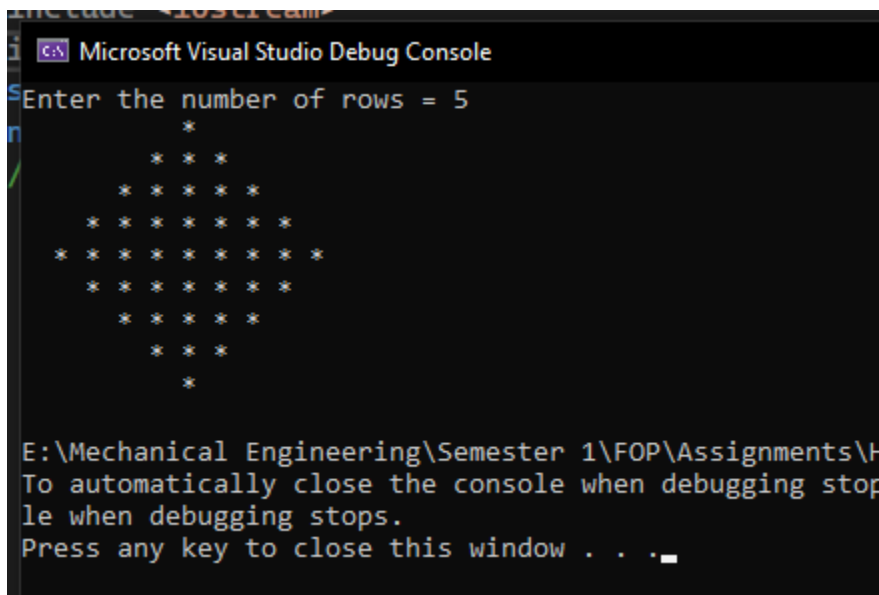
```
#include <iostream>
#include <math.h>
using namespace std;
int main()
{// Task # 3
int p;
cout << "Enter the number of rows = ";
cin >> p;
for (int i = 1; i < p; i++)
{
for (int j = i; j <= p; j++)
{
cout << " ";
}
for (int k = 1; k < i; k++)
{
```

```
cout << "* ";  
}  
for (int l = 1; l <= i; l++)  
{  
    cout << "* ";  
}  
cout << "\n";  
}  
for (int i = 1; i <= p; i++)  
{  
    for (int m = 1; m <= i; m++)  
    {  
        cout << " ";  
    }  
  
    for (int n = i; n < p; n++)  
    {  
        cout << "* ";  
    }  
    for (int o = i; o <= p; o++)  
    {
```

```

cout << "* ";
}
cout << "\n";
}
return 0;
}

```



{// Task # 4

```

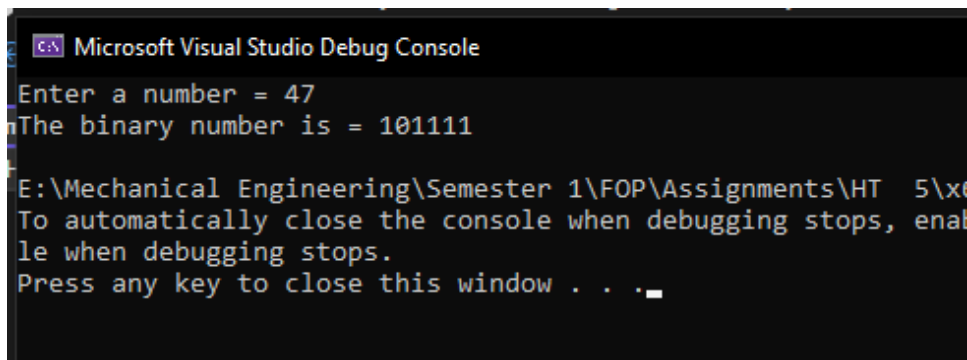
int n,m,p;
string bin = "";
cout << "Enter a number = ";
cin >> n;
m = n;
p = n;

```

```

while (m > 0)
{
    p = m % 2;
    bin = char(p + '0') + bin;
    m = m / 2;
}
cout << "The binary number is = "<<bin << endl;
return 0;
}

```



```

Microsoft Visual Studio Debug Console
Enter a number = 47
The binary number is = 101111
E:\Mechanical Engineering\Semester 1\FOP\Assignments\HT 5\...
To automatically close the console when debugging stops, enable
the option 'Automatically close the console when debugging stops'
Press any key to close this window . . .

```

{// Task # 2

```
int n, a, d,sum;
```

```
cout << "Enter the number of terms n: ";
```

```
cin >> n;
```

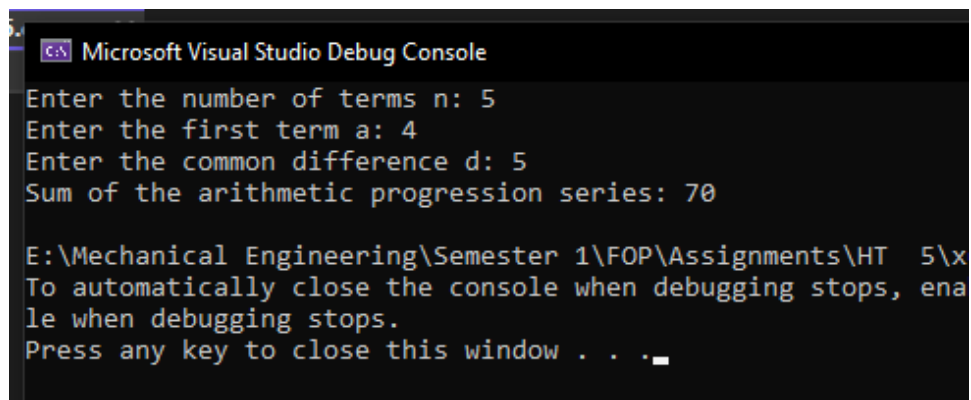
```
cout << "Enter the first term a: ";
```

```
cin >> a;
```

```

    cout << "Enter the common difference d: ";
    cin >> d;
    sum = (n * (2 * a + (n - 1) * d)) / 2;
    cout << "Sum of the arithmetic progression series: " << sum
    << endl;
    return 0;
}

```



The screenshot shows the Microsoft Visual Studio Debug Console with the following text:

```

Enter the number of terms n: 5
Enter the first term a: 4
Enter the common difference d: 5
Sum of the arithmetic progression series: 70

E:\Mechanical Engineering\Semester 1\FOP\Assignments\HT 5\
To automatically close the console when debugging stops, ena
le when debugging stops.
Press any key to close this window . . .

```

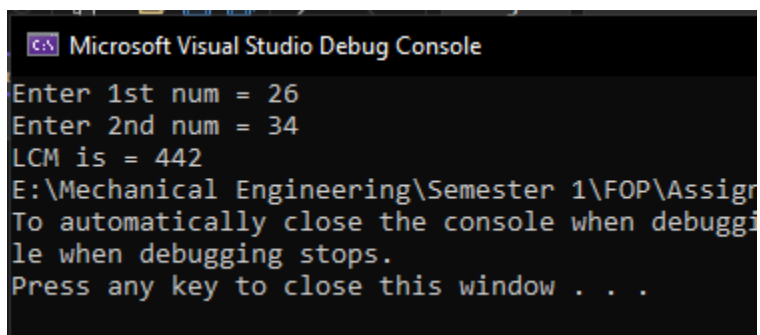
{// Task # 1

```

int num_1,num_2,a, b, hcf, lcm;
cout << "Enter 1st num = ";
cin >> num_1;
cout << "Enter 2nd num = ";
cin >> num_2;
a = num_1;
b = num_2;
while (b != 0)

```

```
{  
hcf = b;  
b = a % b;  
a = hcf;  
}  
hcf = a;  
lcm = (num_1 * num_2) / hcf;  
cout << "LCM is = " << lcm;  
return 0;  
}
```



The screenshot shows the Microsoft Visual Studio Debug Console window. The title bar reads "Microsoft Visual Studio Debug Console". The console output is as follows:
Enter 1st num = 26
Enter 2nd num = 34
LCM is = 442
E:\Mechanical Engineering\Semester 1\FOP\Assign
To automatically close the console when debuggi
le when debugging stops.
Press any key to close this window . . .