

Home task no: 5

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Task no: 1

```
#include<iostream> using  
namespace std;
```

```
// Function to calculate HCF of two numbers
```

```
int hcf(int a, int b) {    if (b == 0)        return
```

```
a;    return hcf(b, a % b);
```

```
}
```

```
int lcm(int a, int b) { return (a * b) / hcf(a,  
b);  
}
```

```
int main() { int  
num1, num2;  
cout << "Enter two numbers: ";  
cin >> num1 >> num2;  
cout << "LCM of " << num1 << " and " << num2 << " is " << lcm(num1,  
num2);  
return 0;  
}
```

Output:

```
Enter two numbers: 45  
9  
LCM of 45 and 9 is 45  
...Program finished with exit code 0  
Press ENTER to exit console.
```

Task no: 2

```
#include<iostream> using  
namespace std;
```

```
int main() {  
    int n, a, d;  
    cout << "Enter the number of terms: ";  
    cin >> n;  
    cout << "Enter the first term: ";  
    cin >> a;  
    cout << "Enter the common difference: ";  
    cin >> d;  
  
    int sum = (n * (2 * a + (n - 1) * d)) / 2;  
  
    cout << "The sum of the arithmetic progression series is: " << sum <<  
    endl;  
  
    return 0;  
}
```

Output:

```
Enter the number of terms: 10  
Enter the first term: 2  
Enter the common difference: 7  
The sum of the arithmetic progression series is: 335  
  
...Program finished with exit code 0  
Press ENTER to exit console.□
```

Task no: 3 #include

<iostream> using

namespace std;

int main() { int n, i,

j, space = 1;

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

cin >> n; space = n - 1; for (j = 1; j

<= n; j++) { for (i = 1; i <= space;

i++)

cout << " "; space--

; for (i = 1; i <= 2 * j - 1;

i++) cout << "*";

cout << "\n";

}

space = 1; for (j = 1; j <=

n - 1; j++) { for (i = 1; i

<= space; i++) cout <<

" "; space++;

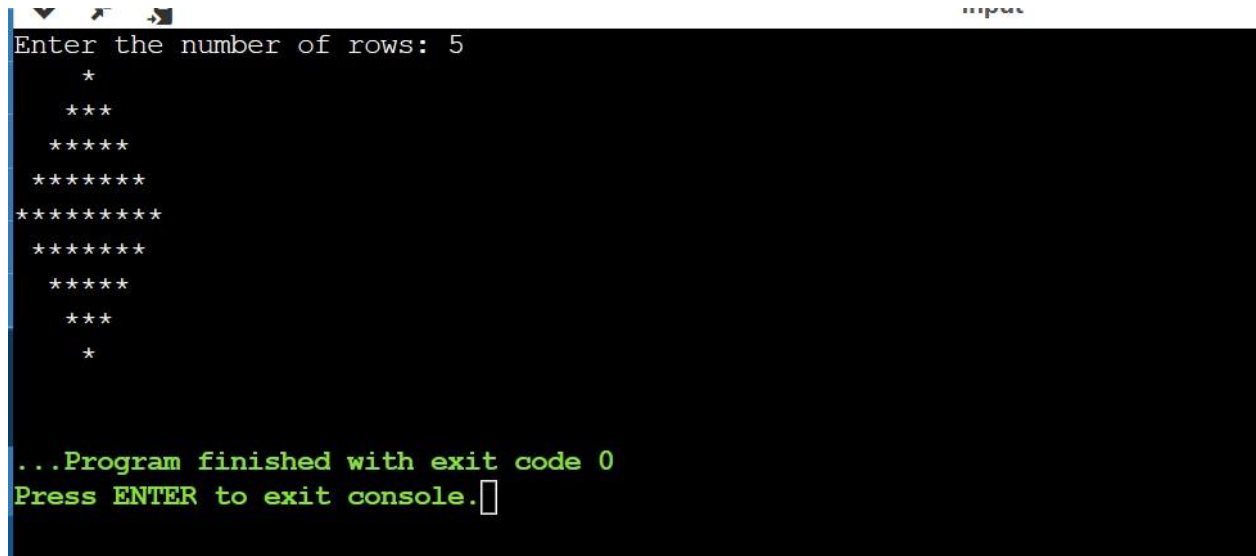
for (i = 1; i <= 2 * (n - j) - 1; i++)

cout << "*"; cout << "\n";

}

```
    return 0;
}
```

Output:

A screenshot of a terminal window with a black background and white text. The text shows the program's execution: it prompts for the number of rows (5), prints a star pattern of 5 rows, and then displays a green message indicating the program finished successfully with exit code 0. The star pattern is a right-angled triangle with 5 rows: the first row has 1 star, the second has 2, the third has 3, the fourth has 4, and the fifth has 5. The terminal window has standard OS window controls at the top and a title bar that says 'mpsc'.

Task no: 4

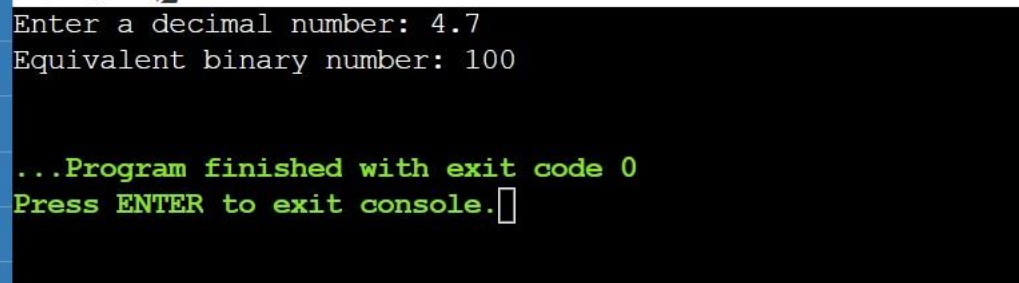
```
#include<iostream> using
namespace std;
```

```
int main() {
    int num, binary = 0, i = 1, remainder;

    cout << "Enter a decimal number: ";
    cin >> num;
```

```
while (num != 0) {  
    remainder = num % 2;  
    num = num / 2;  
    binary = binary + (remainder * i);  
    i = i * 10;  
}  
  
cout << "Equivalent binary number: " << binary << endl;  
  
return 0;  
}
```

Output:



```
Enter a decimal number: 4.7  
Equivalentent binary number: 100  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```