

Problem-1

Print below pattern

```

. . . . *
. . . **
. . ***
. ****
*****

```

Take  $n$  as Integer input where  $n$  is the no. of rows in the pattern.

White dots represents spaces.

Observation:

- ① No. of columns will also be  $n$  bcoz the given pattern can be built if and only if no. of rows is equal to no. of columns.

②

In any row,

No. of spaces =  $n -$   
no. of \*

```
for (int i=0; i<n; i++) {
```

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

Code:

```
for (int i=1; i<=n; i++) {
```

```
    int j;
```

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

```
        cout << " ";
```

```
    }
```

```
    for (; j<=n; j++) {
```

```
        cout << "*";
```

```
    }
```

```
}
```

```

. . . . *
. . . **
. . ***
. ****
*****

```

This loop will print spaces in  $i$ th row

This loop will print \* in  $i$ th row.

Problem

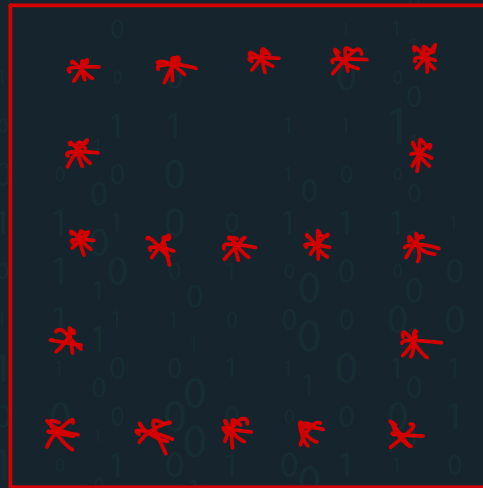
```

. . . . . 1
. . . . 1 2
. . . 1 2 3
. . 1 2 3 4
1 2 3 4 5

```

Problem

Take  $n$  as input  
integer where  
 $n$  is always  
odd



→  $n$  stars ( $I^{st}$ )  
→ 2 stars ( $II^{nd}$ )  
→  $n$  stars  
→ 2 stars  
→  $n$  stars

```
for (int i=1; i<=n; i++) {
```

```
    if (i%2 == 0) {
```

```
        cout << " * ";
```

```
        for (int j=1; j<=n-2; j++) {
```

```
            cout << " ";
```

```
        }
```

```
        cout << " * ";
```

```
    }
```

```
    else {
```

```
        for (int j=1; j<=n; j++)
```

```
            cout << " * ";
```

```
    }
```

```
}
```

$I^{st}$  iter<sup>n</sup>  
 $i=1$  : else

$II^{nd}$  iter<sup>n</sup>  
 $i=2$  : If