→ Home work Question Link

0 1 1 2 3 5 8 13 21 ——— ——— ———

a + b c

c = a + b

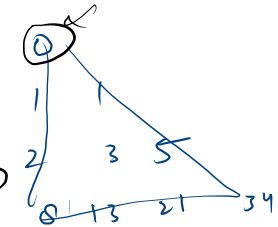
a = b

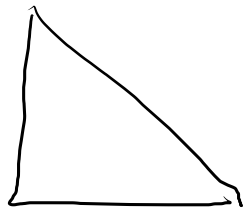
b = c

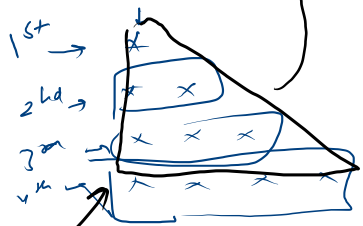
a = 0 → 1

b = 1 → 2

c = 2







int a = 0, b = 1

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

{

for (int j = 1; j <= i; j++)

{

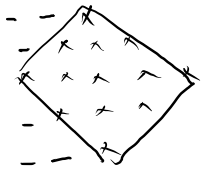
System.out.print(a + " ");

c = a + b; a = b; b = c;

}

System.out.println();

}



row	nst	nsp
0	1	2
1	3	1
2	5	0
3	3	1
4	1	2

nst = 1, nsp = $\frac{n}{2}$

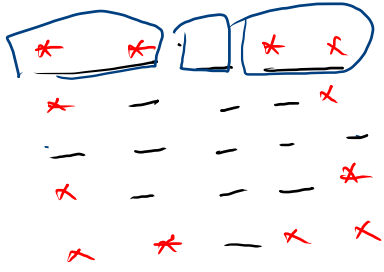
```
for (int i = 0; i<n; i++) {

    for (int j = 1; j<=nsp; j++)
        ——— x ———→ spaces

    for (int j = 1; j<=nst; j++)
        ——— x ———→ stars

    if (i<=n/2) → nst+=2
                → nsp-=1
    else → nst-=2
         → nsp+=1

    cout();
}
```

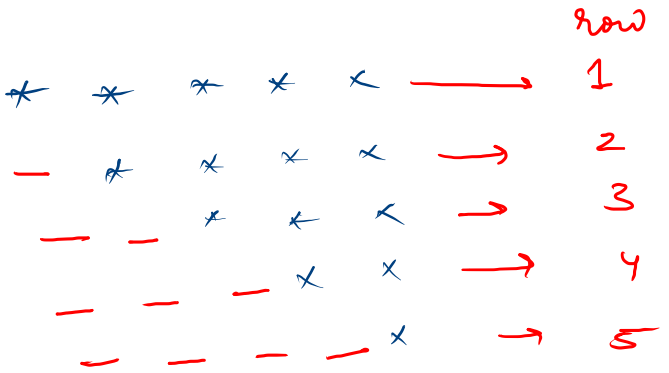


row	nst1		nsp		nst2	
0	2	-1	1	+2	2	-1
1	1		3	+2	1	-1
2	0	+1	5		0	
3	1	+1	3	-2	1	+1
4	2	+1	1	-2	2	+1

```
for (int i=0; i<n; i++)
{
    for (int j=1; j<=nst1; j++)      // nst1 — stars
    for (int j=1; j<=nsp; j++)       // nsp — spaces
    for (int j=1; j<=nst2; j++)      // nst2 — stars
}
```

```
if (i <= n/2)
    nst1 -= 1
    nst2 -= 1
    nsp += 2
else
    nst1 += 1
    nst2 += 1
    nsp -= 2
cout();
```

n = 5



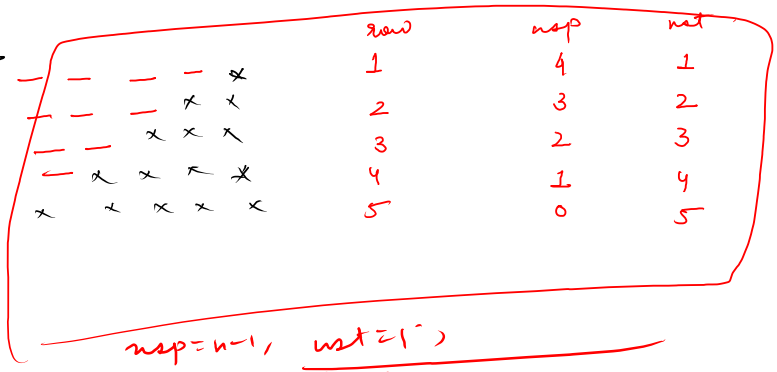
nsp nst
0 +1 5 -1
1 +1 4 -1
2 +1 3 -1
3 +1 2 -1
4 +1 1 -1

```
nsp = 0, nst = n;
for (int i = 1; i <= n; i++)
{
    for (int j = 1; j <= nsp; j++)
        — spaces —
    for (int j = 1; j <= nst; j++)
        — stars —
}
```

nsp += 1
nst -= 1;

cout << "\n";

n = 5



row	nsp	nst
1	4	1
2	3	2
3	2	3
4	1	4
5	0	5

nsp = n-1, nst = 1

```
for (int i=1; i<=n; i++)
{
    for (int j=1; j<=nsp; j++)
        — spaces —
    for (int j=1; j<=nst; j++)
        — stars.
    nsp -= 1;
    nst += 1;
    cout();
}
```

Till pattern - 09