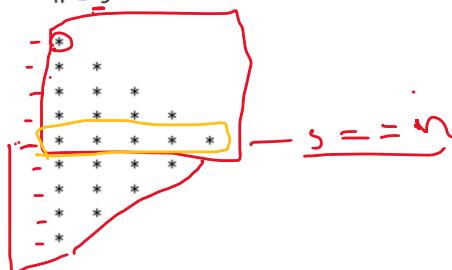


Ques 13:

n = 5



$$(row \leq n * 2 - 1)$$

$$star = 1$$

// star

```

[

```

// Next line

```

if (row < n) star++
else star--

```

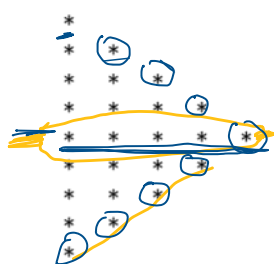
```

row++
cout()

```

Ques 13:

n = 5



→ \*

→ \* \*

→ \* \* \*

→ \* \* \* \*

→ \* \* \* \* \*

→ \* \* \* \*

→ \* \* \*

→ \* \*

→ \*

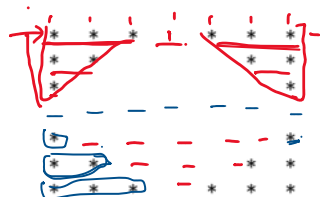
$1 < 5$   
 $2 < 5$   
 $3 < 5$   
 $4 < 5$   
 $5 < 5$   
 $6 < 5$   
 $7 < 5$   
 $8 < 5$   
 $9 < 5$   
 $10 < 5$

```

i = 1 2 3 4 5
int n = 5;
int star = 1;
int row = 1;
while (row <= n * 2 - 1) {
    // Star
    int i = 1;
    while (i <= star) {
        System.out.print(" ");
        i++;
    }
    // Next line prep
    row++;
    if (row <= n) {
        star++;
    } else {
        star--;
    }
    System.out.println();
}

```

$star = 1 2 3 4 5$   
 $row = 1 2 3 4 5$   
 $6 7 8 9 10$   
 $11 12 13 14 15$



$$n * 2 - 3$$

$$n = 5$$

$$n * 2 = 10 - 3$$

$$space = 1$$

$$star = n - 2$$

$$row < n - 1$$

```

while (row <= n * 2 - 3) {
    // Star

```

$$star = 1 2 3 4 5$$

$$space = 1 2 3 4 5$$

```

while (row<=n*2-3) {
    //Star
    int i = 1;
    while (i<=star) {
        System.out.print("* ");
        i++;
    }
    // Space
    int j = 1;
    while (j<=space) {
        System.out.print(" ");
        j++;
    }
    // Star
    int k = 1;
    while (k<=star) {
        System.out.print("* ");
        k++;
    }

    // Next line prep
    if(row<n-1){
        space +=2;
        star--;
    }else{
        space -=2;
        star++;
    }
    row++;
    System.out.println();
}

```

star = 7 2 1 0 1

space = 1 3 5  
7 5

1 <= 7  
2 <= 7  
3 <= 7  
4 <= 7  
5 <= 7

row = 1 2 3 4 5

```

→ * * * _ * * *
→ * * _ _ _ * *
→ * _ _ _ _ _ *
→ _ _ _ _ _ _
→ * _ _ _ _ _

```