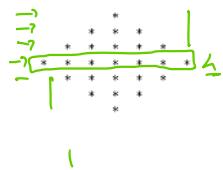


Ques 18:
 $n = 2$ 

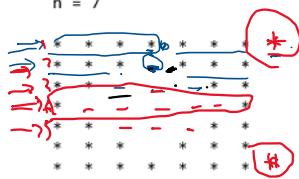
$$\text{space} = n/2 \quad \text{start} = 1$$

$\text{while}(\text{row} < n)$ {

// space

// star

} next line
if ($\text{row} < n/2 + 1$) {
 space --
 start += 2
} else {
 space += 2
 start -= 2
}

Ques 19:
 $n = 7$ 

$$\text{row} = 1$$

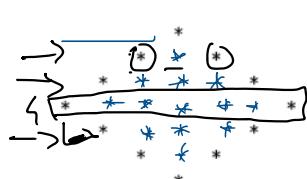
$$\text{start} = n/2 + 1$$

$$\text{space} = 0 \quad \begin{array}{l} -1+2 \\ = 1+2 \\ = 3+2 \\ = 5 \end{array}$$

$\text{while}(\text{row} < n)$ {

// start
int i = 1;
while (i <= start) {
 cout (<< i); i++
}
// space
int j = 1;
while (j <= space) {
 cout (<< j); j++
}
// start

} next line
if ($\text{row} < n/2 + 1$) {
 start -= 4
 space += 2
} else {
 start += 4
 space -= 2
}

Ques 20:
 $n = 7$ 

$$\text{space} = n/2$$

$$\text{start} = 1$$

$$\text{row} = 1$$

$\text{while}(\text{row} < n)$ {

// space
int i = 1;
while (i <= space) {
 cout (<< i);
 if
 { start
 int j = 1;
 while (j <= start) {
 if (j == 1 || j == start)
 n cout (<< j);
 j++;
 }
 start -= 2
 space -= 2
 }
 else
 start += 2
 space += 2
 }
 i++;
}

} next line
if ($\text{row} < n/2 + 1$) {
 start += 2
 space -= 2
} else {
 start -= 2
 space += 2
}

if ($j == 1$) $j = \text{numy}$
 sout(*)
 else sout()
 j++
 }
 cout <
 sout(j)

Ques 21:
n = 5

$$\text{space} = n * 2 - 3$$

