Pattern and homework

29 May 2023 18:54

4 Bits.

_ _ _ _
8 4 2 1

Signed form.
MSB → represent sign of number.
↓
Most Significant Bit

1 _ _ _ → -ive number.

0 _ _ _ → +ive number. → (7)
4 2 1

1+2+4 = 7.

0 _ _ _
0 0 0 → 0   0 1 0 → 2   1 0 0 → 4   1 1 0 → 6
0 0 1 → 1   0 1 1 → 3   1 0 1 → 5   1 1 1 → 7

→ 1 _ _ _

no.	Bin. rep.	2s comp.	-ive no.
1	0001	1111	-1
2	0010	1110	-2
3	0011	1101	-3
4	0100	1100	-4
5	0101	1011	-5
6	0110	1010	-6
7	0111	1001	-7
8	1000	1000	-8

1s 1100
+1
2s 1101

1011
+   1
1100

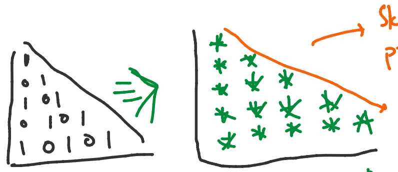
1010
+   1
1011

1000
+   1
1001

1001
+   1
1010

1000
1s → 0111
+1   1
       1000

2s complement of +ve binary representation.



Skeleton ho gya problem to be solved.

1. Identify the task
   spaces, stars.

2. Jab kisi pattern mai symmetry ho, uske first half solve krne ki koshish kro.
   uske baad hm pattern mirroring kr skte hai

3. Jab pattern mai numbers/Alphabets given ho. then first try to do it for/by stars.

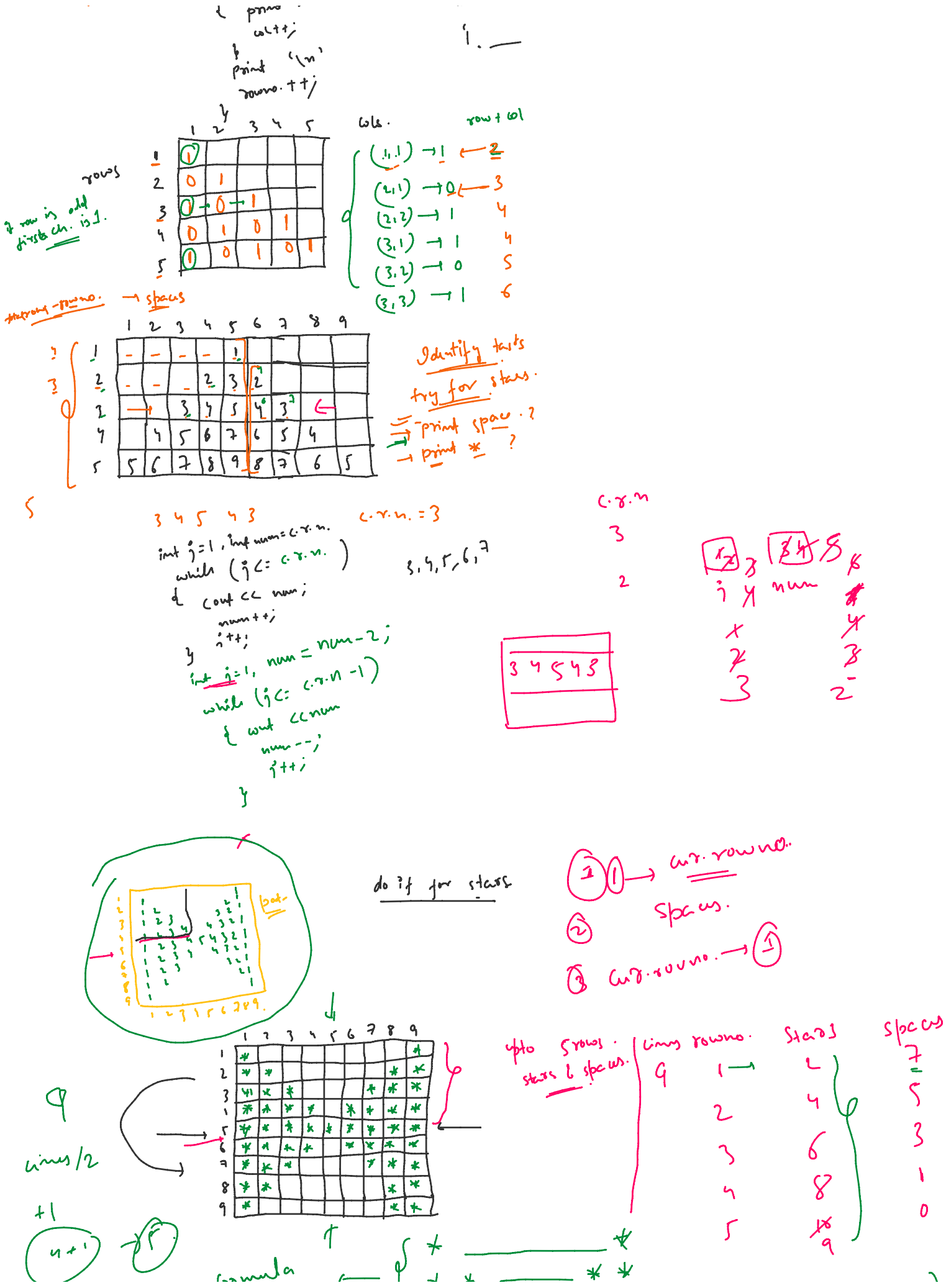
Pseudo code
read lines   lines ← 5
int rowno. = 1
while (rowno <= 5)
{ int col = 1
  while (col <= rowno.)
  { print '*'
    col++;
  }
  '\n'

(1,0)

1
0 1
1 0 1

*
* *
* *,*

1. ___


print
col++;
print '\n'
row no. ++;
rows
col.
row + col
if row is odd first ch. is 1.
identify tasts
try for stars.
print space. ?
print * ?
c.r.n
3
2
num
int j=1, int num=c.r.n.
while (j<= c.r.n.)
cout << num;
num++;
j++;
int j=1, num = num-2;
while (j<= c.r.n -1)
cout <<num
num--;
j++;
do if for stars
curr. row no.
spaces.
curr. row no.
upto 5 rows. stars & spaces.
lines
row no.
stars
spaces
lines/2
+1
formula

n+1 → 5

formula ← * ——— *
          * * ——— * *

spaces = lines − (2 × curr.row.no)

for each row.
print stars upto curr. row. no. count.
print spaces
print stars upto curr. row no.
print new line.

it is true for most of the rows

for entire row of the whole pattern or for the last row of half pattern it is false.

for each row
print nos. from 1 to curr. row no.
print spaces.
print nos. from curr.row.no. to 1.