

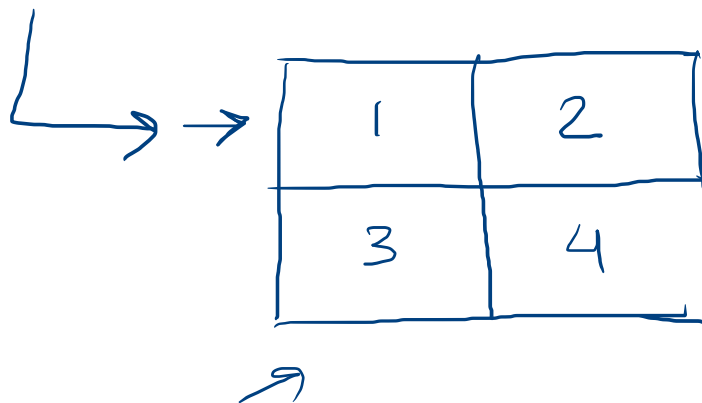
⑧

2-D Arrays.

Matrix.

What are 2D Arrays.

$\left[\left[1, 2 \right], \left[3, 4 \right] \right]$



2x2

a	b	c
d	e	f
i	j	k

→ $[[a, b, c], [d, e, f], [i, j, k]]$

→ 3 × 3 →

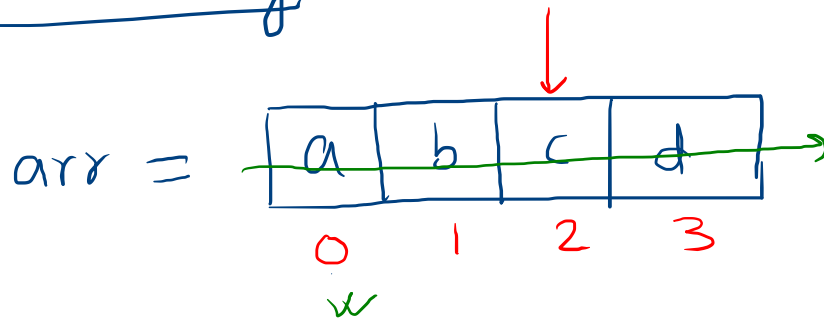


	↓	↓	↓	↓
→	-	-	-	-
→				
→				

↗

row cols.
 ↓ ↓
3 x 4

⑧ Indexing -



arr[2] → c

arr[0] → a ✓

	↓	↓	↓
	0	1	2
→ 0	a	b	c
→ 1	d	e	f
→ 2	i	j	k

→ mat[1][2] → f

→ mat[2][1] → j

⑧ Used



BMS - ↳ Seating Arrangement -

Red

(*)

a → 0 0
b → 0 1
c → 0 2
d → 0 3
e → 1 0
f → 1 1
g → 1 2
 1 3

 2 0
 2 1
 2 2
 2 3
 3 0

↓
arr[F][M]

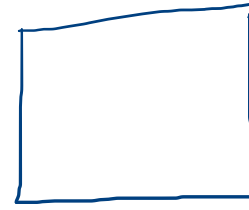
=

	0	1	2	3
0 →	a	b	c	d
1 →	e	f	g	h
2 →	i	j	k	l
3 →	m	n	o	p

↓
for (i=0; i < rows; i++) {
 for (j=0; j < cols; j++) {
 console.log(arr[i][j])
 }
}

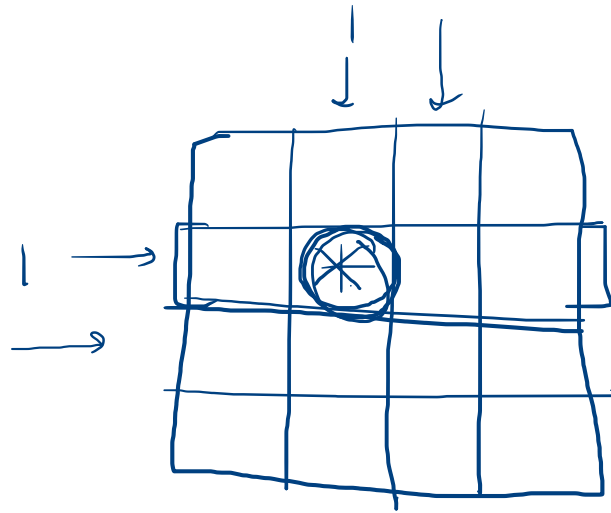
4 x 4

psc.



arr[i][j]

↑ ↑



arr[1][1]

arr[1]

col = N
row = M

arr [M] [F]

for (i=0 ; i < col ; i++) {

for (j=0 ; j < row ; j++) {
 console.log (arr [j] [i])

}

}

	0	1	2
0	a	b	c
1	d	e	<u>f</u>
2	g	h	i

~~i = 2~~

~~j = 3~~

a b
d e
g h

(*)

g → 2 0
d → 1 0
a → 0 0
h → 2 1
e → 1 1
b → 0 1
i → 2 2
f → 1 2
c → 0 2

[M] [F]

g d a
h e b
g h i
d e b
a

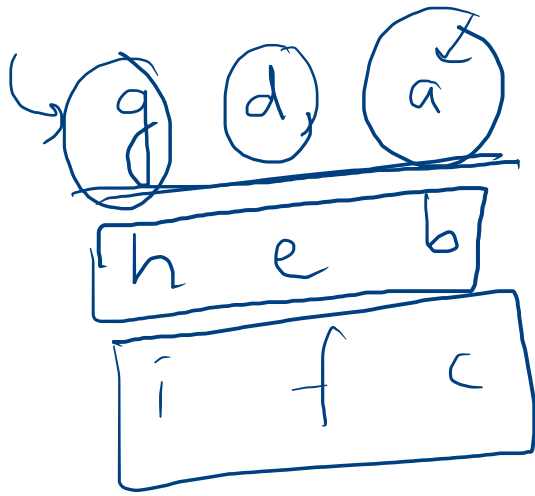
	0	1	2
0	a	b	c
	d	e	f
	g	h	i

for (i=0; i < col; i++) {
 for (j=row-1; j >= 0; j--) {
 console.log(arr[j][i])
 }
}

⊗
 w g d a h e b i f c

bag = ' ' sum = 0 ✓
 for (→) {
 for (→) {
 bag += arr[j][i] ~~arr[j][i]~~
 }
}
bag

	0	1	2
0	a	b	c
1	d	e	f
2	g	h	i



```
bag
for ( ) {
    bag = ' '
    for ( ) {
    }
    console.log(sas)
}
```

A diagram showing code blocks with arrows indicating flow or relationships. A large arrow points from the first 'for' loop to the 'console.log(sas)' statement. Another arrow points from the 'console.log(sas)' statement to the closing brace of the first 'for' loop. A third arrow points from the 'console.log(sas)' statement to the closing brace of the second 'for' loop.

⊗ Diagonal . → Next week .

Snake



↓
odd even ✓

(*) Find out sum
of the 2D Array.

C

1	5	9	→ 15
2	7	8	→ 7
6	8	3	→ 3

(*)

✓

6

10

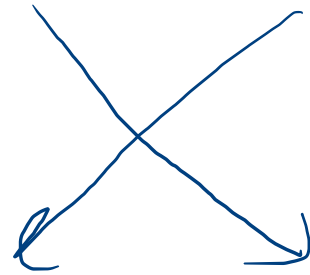
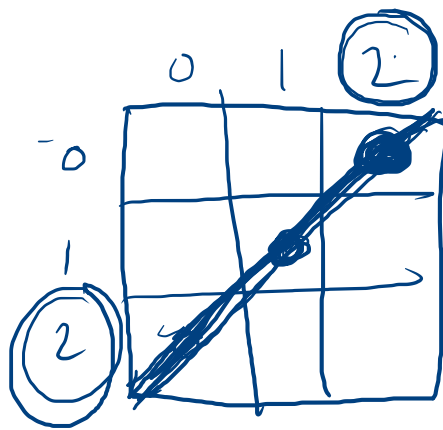
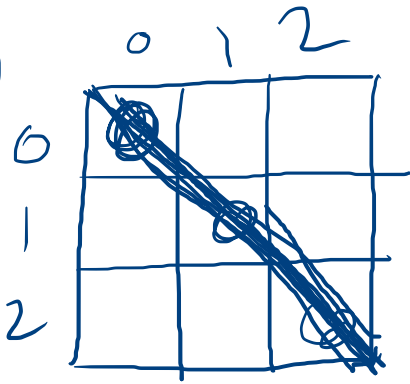
0

✓

5	8	5
6	2	3
7	9	7

6 10 0

(*)



col-1

row-1

$$\underline{i = j}$$

$$\begin{aligned} \rightarrow 0 + 2 &= 2 \\ \rightarrow 1 + 1 &= 2 \\ \rightarrow 2 + 0 &= 2 \end{aligned}$$

(N Z)

0 0

1 1

2 2

$$\checkmark (i + j) == \underline{\text{col} - 1}$$

$$\checkmark (i + j) == \underline{\text{row} - 1})$$