Array

1D Array → [2, 4, 6, 8, 12, 15, 20, 27, 37] → arr

1008

0 1 2 3 4 5 6 7 8 — index

↳ 1004

1000

↳ Base address

arr[6] ↳ 20

int → 4 Bytes

arr[6] → 1000 + (6 − 0) * 4

1000 + 24 = 1024

(contiguous storage of an array elements) (Index)

(By default → 0)

Memory address

arr(i) = Base address + (i − Lower Bound of an index) * size of an element

⟹ Random access

2D Array → (Rows, columns)

↳ Matrix computation

{ i → Row index
J → column index

rows	0	1	2 → columns
0	2	4	6
1	8	10	12
2	14	17	20

columns: [2, 8, 14], [4, 10, 17], [6, 12, 20]

[2, 4, 6], [8, 10, 12], (14, 17, 20) ↳ rows

arr[2][2]

arr[0][1]

1000

↳ Row major form

0	1	2	3	4	5	6	7	8
2	4	6	8	10	12	14	17	20

2 8 14 4 10 17 6 12 20 → CMF

1) Row major form → Row-wise

2) column major form → column-wise