

Array Data Structure

Python →

→ Store contiguous data of same type

Score of the students

int	0	50	0x5000 ←
↳ 4 Bytes	1	55	0x5004 ↔ RAM (Random Access Memory)
	2	65	0x5006 ←
↳	3	75	← arr(3) → Random access
	4	85	
	5	90	

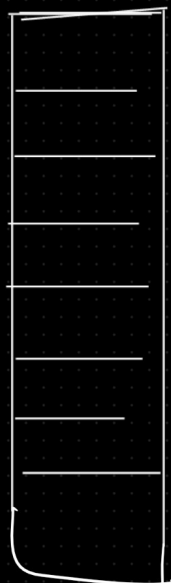
List

← Python → Dynamic array

→ No need to predefine size of an array

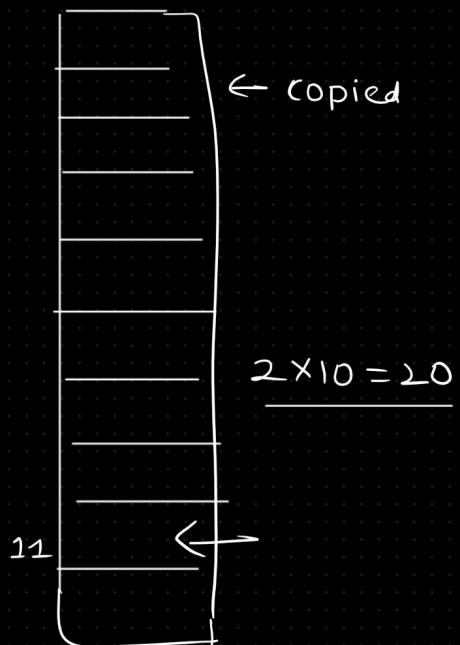
C++, Java → Static array → 10
Dynamic array

Memory Allocation



2×10
capacity = 10

new space



2, 4, 6, 8, 10

0 1 2 3 4

Insertion (1, 5)

2, ~~5~~, 4, 6, 8, 10

↖ ↗ ↘ ↙

$O(n)$

Time complexity → Loops

0	2	4	6
1	8	10	12
2	14	16	20

2D Array → Row, columns

→ Matrix computations

arr(2)(1) → 16