

## ARRAY LIST

Array list is linear.

### Array

- ① fixed size.
- ② primitive data types can be stored.

Primitive data type  
 • int  
 • float  
 • boolean

### ArrayList

- ① dynamic size.
- ② primitive data types can't be stored directly.

### # Syntax

```
import java.util.ArrayList;
```

```
→ ArrayList <Integer> List = new ArrayList<>
```

↓                      ↘  
 String / Boolean      Name of ArrayList

### # Operations perform of on ArrayList.

- |                        |        |                           |
|------------------------|--------|---------------------------|
| ① Add Element          | $O(1)$ | { .add }                  |
| ② Get Element          | $O(1)$ | { .get(index) }           |
| ③ Remove Element       | $O(n)$ | { .remove(index) }        |
| ④ Set Element at Index | $O(n)$ | { .set(index, val) }      |
| ⑤ contains Element     | $O(n)$ | { .contains(val) } (True) |

### # Size of AL.

```
list.size()
```



- Sorting an ArrayList

import java.util.Collections; or import java.util.\*  
Collection.sort()

Ex :- ① Collection.sort(List); // ascending order.

② Collection.sort(List, Collections.reverseOrder());

- multi-dimensional ArrayList

~~Arr~~

ArrayList <ArrayList<Integer>> mainList = new ArrayList<>();