

Array List

→ in built
→ linear

Array

1) fixed size

2) Primitive data types
can stored

Operations

1) Add → Variable.add();

2) Get → Variable.get(^{int}); / int v = Variable.get();

3) Index of an element → Variable.
Remove → Variable.remove();

4) Set → Variable.set();

5) Contains → Variable.contains(); output → T/F

Size of Array list

.size()

Swap two Numbers

list = 2, 5, 9, 3, 6

index: idx1=1, idx2=3

2 3 9 5 6

temp = list(idx1)

list(idx1) = list(idx2)

list(idx2) = temp

Sorting

We have inbuilt fun - Collection → interface → X

but we use Two

We must write

lib

Collections.sort(var);

import java.util.*;

Descending order

↓
This lib indicate All

Collections.sort(var, reverseOrder());

import java.util.ArrayList;

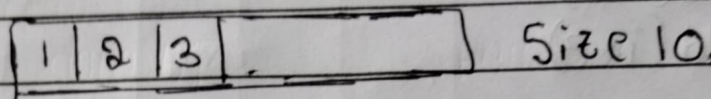
import java.util.Collections;

Array List implementation

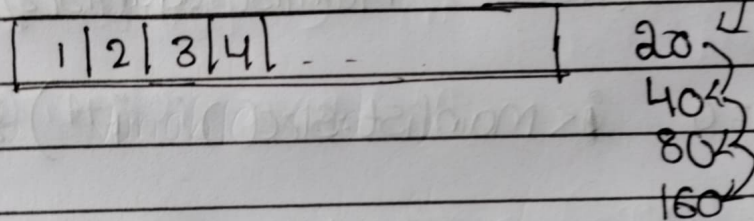
const

```
ArrayList<Integer> list = new ArrayList<>();
```

↓ ↓ ↓ ↓
 obj. datatype dec->name create (heap)



} → full java automatically
double



Multi-dimensional ArrayList 2D Array

list1: 1 2 3 4 5

list2: 2 4 6 8 10

list3: 3 6 9 12 15

2D

```
ArrayList<ArrayList<Integer>> Mainlist = new  
ArrayList<>();
```

```
ArrayList<Integer> list1 = new ArrayList<>();
```

ArrayList<Integer> list2 = new ArrayList<>();

ArrayList<Integer> list3 = new ArrayList<>();

for (int i = 1; i <= 5; i++) {

list1.add(i*1);

list2.add(i*2);

list3.add(i*3);

}

Mainlist.add(list1); Mainlist.add(list2); Mainlist.add(list3);

for (int i = 0; i < Mainlist.size(); i++) {

ArrayList<Integer> currlist = Mainlist.get(i);

for (int j = 0; j < currlist.size(); j++) {

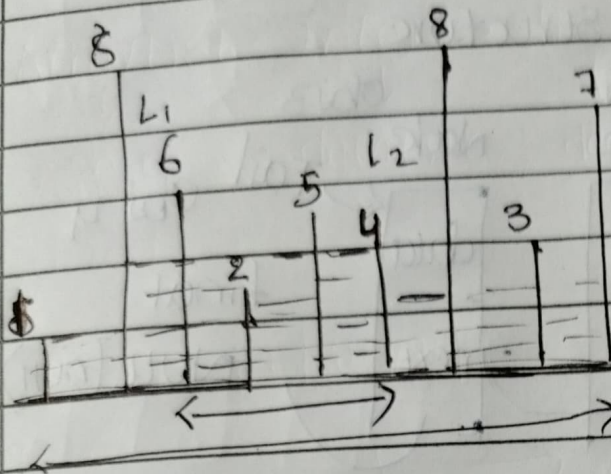
System.out.print(currlist.get(j) + " ");

}

System.out.println();

}

Expt. No.:

Container With Most Waterheight = [1, 8, 6, 2, 5, 4, 8, 3, 7]
0 1 2 3 4 5

for (int i = 0; i < ht.size(); i++)

for (int j = i + 1; j < ht.size(); j++)

$$\begin{aligned}\text{Water} &= \text{height} \times \text{width} \\ &= 4 \times 3 \\ &= 12\end{aligned}$$

$$\begin{aligned}\text{width} &= L_2 - L_1 \\ &= 5 - 2 \\ &= 3\end{aligned}$$

$$\begin{aligned}\text{Water} &= \text{height} \times \text{width} \\ &= 7 \times 7 \\ &= \underline{49}\end{aligned}$$

$$\begin{aligned}\text{width} &= L_2 - L_1 \\ &= 8 - 1 \\ &= 7\end{aligned}$$

Container With

Teacher's Signature _____