

06 ArrayList

14:08

Agenda:

1. Introduction
2. Problems

1. Introduction

ArrayList

- Dynamic Size.
- Does not require to know the size in advance.

Syntax

ArrayList<Type> arr = new ArrayList<Type>();

- Here type has to be a class, it can not be a primitive.
- Primitives can be int, long, double, or boolean.
- Instead of primitive we can use wrapper classes and custom objects, which means we can use Integer, Long, Double, String, etc.

Basic Operations

- Inserting Elements
`array_list_name.add(value);`
- Get
`array_list_name.get(index);`
- Size
`array_list_name.size()` returns the size of the ArrayList.
- Remove
`array_list_name.remove(index);` -> it removes the element from the array list at given index.
- Set
`array_list_name.set(index, value);`

2D ArrayList

2D array list are array list of array list.

ArrayList< ArrayList<Type> > mat = new ArrayList< ArrayList<Type> >();

2. Problem Statement

1. Given an ArrayList as input return an ArrayList of the multiples of 5 or 7.

e.g. $[1, 5, 3, 7, 0]$ o/p $\rightarrow [5, 0, 7]$

2. Given two integers A and B as input, return an ArrayList containing first B multiples of A.

A = 2, B = 4 o/p $\rightarrow [2 \times 1, 2 \times 2, 2 \times 3, 2 \times 4] \rightarrow [2, 4, 6, 8]$

3. Given a 2D ArrayList as input, print it line by line.

4. Given an integer N as input, return the numeric staircase.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

4. Given an integer N as input, return the numeric staircase.

$[1]$ $[1, 2]$ $[1, 2, 3]$