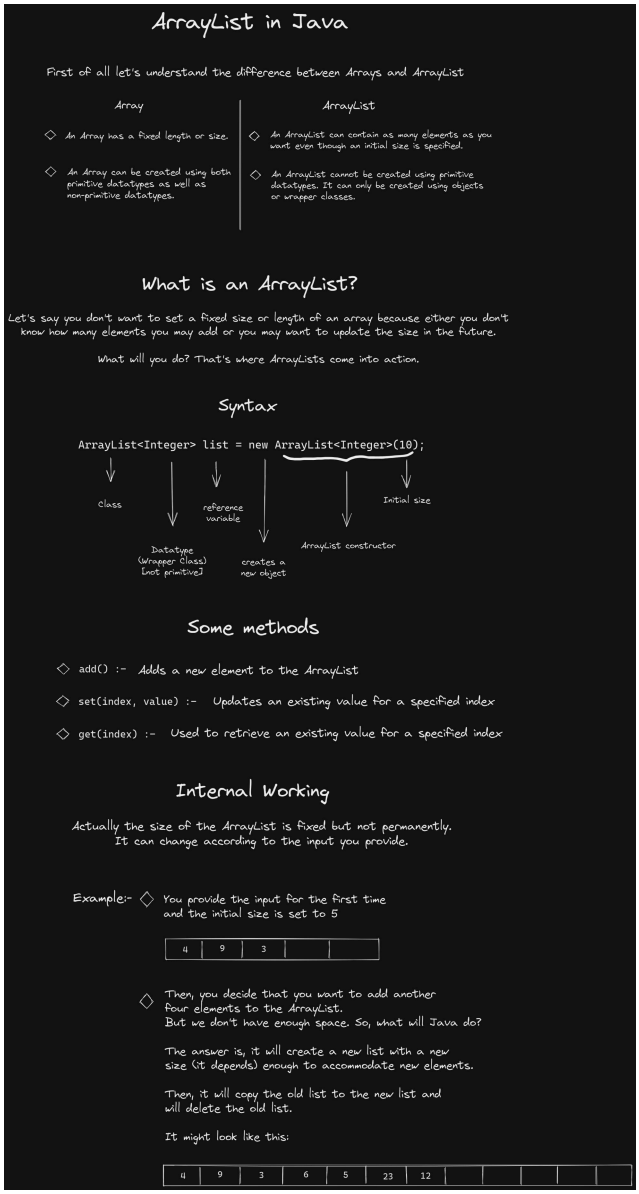
ArrayList in Java
First of all let's understand the difference between Arrays and ArrayList
Array
An Array has a fixed length or size.
An Array can be created using both primitive datatypes as well as nonprimitive datatypes.
ArrayList
An ArrayList can contain as many elements as you want even though an initial size is specified.
An ArrayList cannot be created using primitive datatypes. It can only be created using objects or wrapper classes.
What is an ArrayList?
Let's say you don't want to set a fixed size or length of an array because either you don't know how many elements you may add or you may want to update the size in the future.
What will you do? That's where ArrayLists come into action.
Syntax
ArrayList<Integer> list = new ArrayList<Integer>(10);
Class
reference variable
Datatype (Wrapper Class) [not primitive]
creates a new object
ArrayList constructor
Intial size
Some methods
add() :- Adds a new element to the ArrayList
set(index, value) :- Updates an existing value for a specified index
get(index) :- Used to retrieve an existing value for a specified index
Internal Working
Actually the size of the ArrayList is fixed but not permanently.
It can change according to the input you provide.
Example:-
You provide the input for the first time and the initial size is set to 5
4 9 3
Then, you decide that you want to add another four elements to the ArrayList.
But we don't have enough space. So, what will Java do?
The answer is, it will create a new list with a new size (it depends) enough to accommodate new elements.
Then, it will copy the old list to the new list and will delete the old list.
It might look like this:
4 9 3 6 5 23 12