

Lesson 2

ArrayList

Day 2

ArrayLists

ArrayLists are very similar to arrays, except there are a few differences.

ArrayLists are a little bit easier to use because they have adjustable lengths.

Declaration Example:

```
ArrayList<String> newArr = new ArrayList<String>();
```

Import

ArrayList is part of the `java.util` package. To use ArrayLists, you have to

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

- To import the `ArrayList` class

OR

```
import java.util.*;
```

- To import the entire `java.util` package

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

```
class Main {  
    public static void main(String[] args) {  
        ArrayList<Integer> arr = new ArrayList<>();  
        arr.add(50);  
        arr.add(-9);  
        arr.add(1, 15);  
        System.out.println(arr.size());  
    }  
}
```

ArrayList Methods

- add(E element)
- add(int index, E element)
- contains(Object o)
- get(int index)
- indexOf(Object o)
- lastIndexOf(Object o)
- remove(int index)
- remove(Object o)
- set(int index, E element)
- size()
- subList(int fromIndex, int toIndex)

.add(Object o)

Used when you want to add an Object to an ArrayList

- Example)

```
ArrayList<String> arrName = new ArrayList<String>();  
  
String str = "name";  
  
arrName.add(str)
```

This code adds the String `str` to the slot after the last object in ArrayList `arrName`. The ArrayList would get one item longer.

.get(int i)

Returns the Object found at the index i.

- Ex.) `arrName.get(0)`

```
ArrayList<String> arrName= new ArrayList<String>();
```

arrName=

0	1	2	3
"a"	"bc"	"ddd"	"F"

`arrName.get(3)` returns "F"

.set(int i, Object o)

Assigns a value to the object at index i

- Ex.) `arrName.set(1, "dooo");`

`arrName=`

0	1	2	3
"a"	"bc"	"ddd"	"F"

`arrName.set(2, "jjj")` would change the String at index 2 to "jjj"

.remove(int i)

Removes the object at index `i` from the `ArrayList` and returns its value

Ex.) `arrName.remove(0)` would remove the first String from the list and return `"a"`

arrName=

0	1	2	3
"a"	"bc"	"ddd"	"F"



arrName=

0	1	2
"bc"	"ddd"	"F"

.size()

Returns the size of the ArrayList

- Returns an int, just like the `.length()` function for String
- For example, `arrName.size()` would return 4

`arrName=`

0	1	2	3
"a"	"bc"	"ddd"	"F"

Questions?

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