



# SuperArray

# Arrays - Disadvantage in Java

An array is a container object that holds a fixed number of values of a single type. The length of an array is established when the array is created. **After creation, its length is fixed.**

How we resize an array and add more elements?



# SuperArray Class

It will create a dynamic array.

It will behave as a list in Python.



# Instance variables

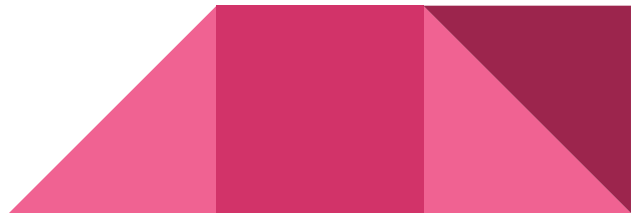
data => Array of String

size => Number of actual elements in the array

Important: size and length are not the same

data.length: the total capacity

size: elements that have been added to the array



# Constructors

You may create a SuperArray object like this:

```
SuperArray supArr = new SuperArray()
```

How should you define your constructor?


You may create a SuperArray object indicating the initial capacity

```
SuperArray supArr = new SuperArray(10)
```

How should you define your constructor?

```
public SuperArray(){  
    // initialize instance variables  
    // Indicate the array capacity  
}
```

```
public SuperArray(int initialCapacity){  
    // initialize instance variables  
    // Assign the array capacity  
    // using the parameter  
}
```



# Methods

**Add:** `supArr.add("First")`

**Print:** It will print `["First"]`. It does not print null elements.

**Get size:** Return the size

```
data => ["First", ?, ?, ?, ?, ?, .....]
```

```
size => 1
```


Adding more:

```
supArr.add("Second")
```

```
supArr.add("Third")
```

```
data => ["First", "Second", "Third", ?, ?, ?, ?, .....]
```

```
size => 3
```



# Methods

**Get a single value by index:** `supArr.get(0) => "First"`

**Set a single value by index:** `supArr.set(0, "Primero") => Will replace "Primero"`

**Remove by index:** `supArr.remove(0) => Removes element at index 0`

`data => ["Second", "Third", ?, ?, ?, ?, .....]`

`size => 2`

**Remove by value:** `supArr.remove("Third") => Removes the leftmost element that matches the string received as parameter`

`data => ["Second", ?, ?, ?, ?, ?, .....]`

`size => 1`

