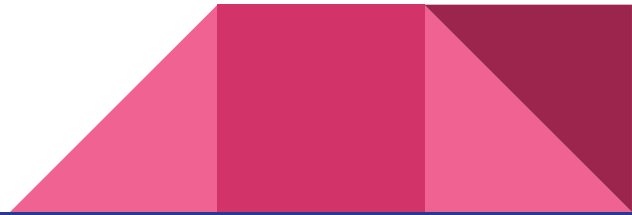
SuperArray

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**.

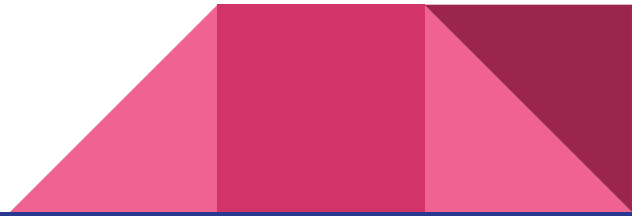
How we resize and array and add more elements?



SuperArray Class

It will create a dynamic array.

It will behave as a list in Python.



Instance variables

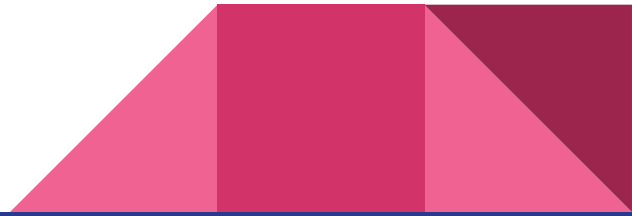
data => Array of String

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?

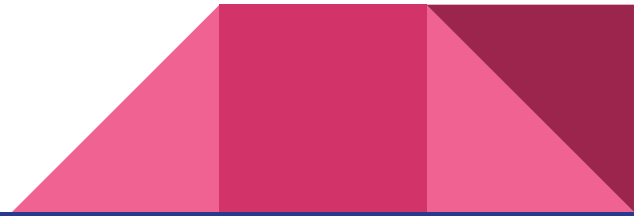
```
public SuperArray(){
    // initialize instance variables
    // Indicate the array capacity
}
```

You may create a SuperArray object indicating the initial capacity

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

How should you define your constructor?

```
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

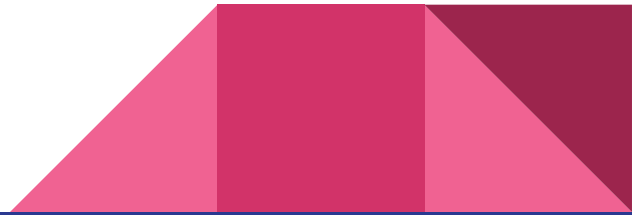
<u>Adding more:</u>

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