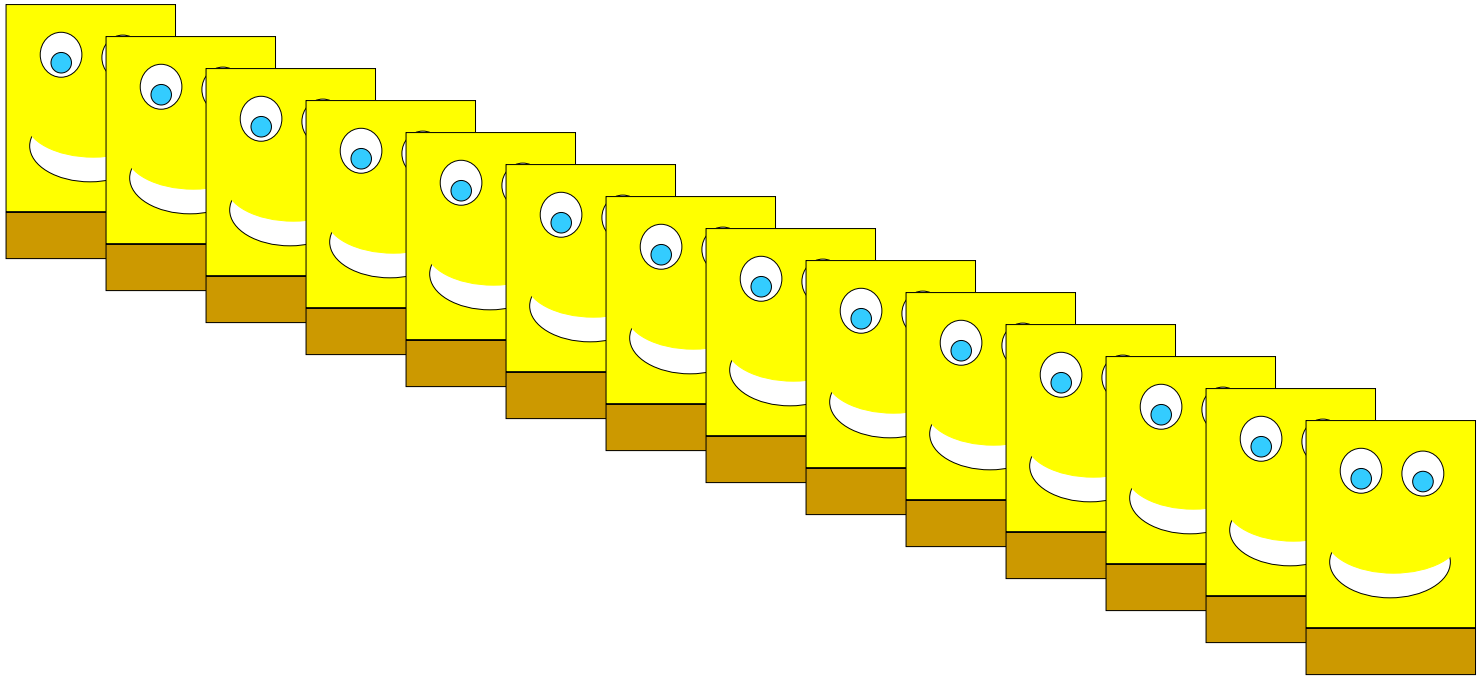
Step Into Java: ArrayList Class

Mr. Neat

Java

What are the limitations of an array?



Limitations of arrays

Cannot be resized!

java.util.ArrayList is the library class that must be imported.

import java.util.ArrayList;

```
public class PlayArray
{
        private ArrayList<Object> myList = new ArrayList<Object>();
```

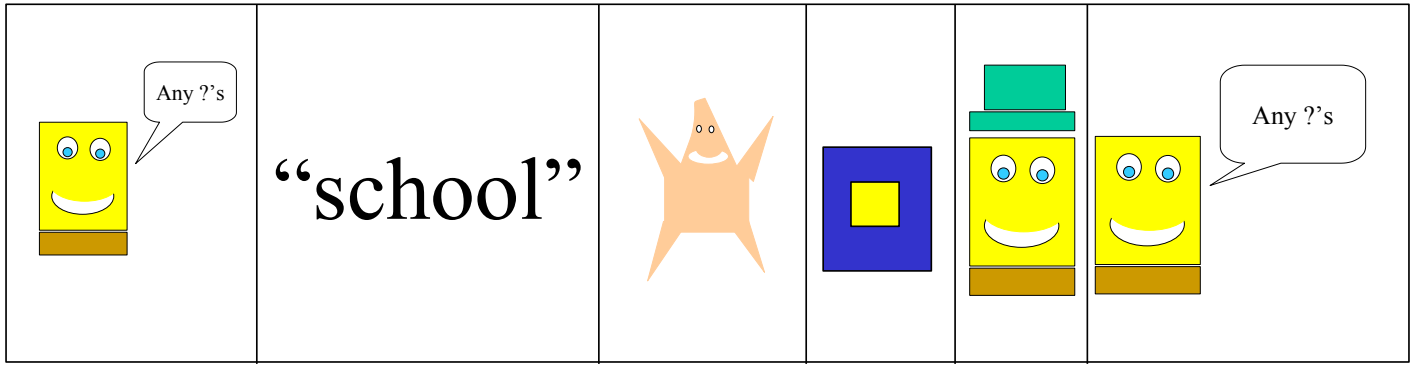
constructs an ArrayList object
with zero elements

public ArrayList Methods

int size()	myList.size()
boolean add(Object x)	myList.add(“Hi”);
Object get(int index)	myList.get(4);
Object set(int index, Object x)	myList.set(3,”Bye”);
Object remove(int index)	myList.remove(2);
void add(int index, Object x)	myList.add(3,new SpongeBob…

---

myList



How does the ArrayList resize?

One problem…
what if we wanted an ArrayList of int's, or double's?

But ArrayList holds Objects!

Wrapper Classes to the rescue!

These classes turn primitive types into classes. We are concerned about 3:

Double

Int

Boolean

Construct a Double object:

```
Double r = new Double(7.5);

// to retrieve the double value,…

System.out.print(r.doubleValue());
```

Let’s add a double value to aList:

```
double num = 37.5;
Double numWrap = new Double(num);
aList.add(numWrap);
```

How would you retrieve the Double in aList?

Now its an Object….

```
Double retriever = (Double)aList.get(0);
double back = retriever.doubleValue();
```

Next Lab

-Repeat previous array lab using ArrayList as the data structure.

-You should make your ArrayList type whatever abstract class you made for your classes

ArrayList<your abstract class> joe