What can you put into an ArrayList?

- Anything that derives from Object
  - String, ArrayList, Counter, ...
  - int, double, char, boolean, ...NO!!!

- What can we do if want a collection of int values
  - Put an upper bound on the count and use array

```java
int index = 0;
int[] a = new int[HUGE_NUMBER];
while (...) {
    if (condition()){
        a[index++] = value;
    }
}
```
What can you put into an ArrayList?

- Use a wrapper class (see java.lang.*)
  - int, double, char, boolean, ...
  - Integer, Double, Character, Boolean,

```java
ArrayList list = new ArrayList();
while (...) {
    if (condition()){
        list.add(new Integer(value));
    }
}
int[] a = new int[list.size()];
for(int k=0; k < list.size(); k++){
    a[k] = ((Integer) list.get(k)).intValue();
}
```
What is a char?

- **Differences between unicode and ASCII**
  - Why is unicode used? Why should we care? What should we know? How many of the details are important?

- **A char value can be treated like an int value**
  - Add integer to it, cast back to char
  - Subtract character from it, get int back

```java
counters[\'z\' - s.charAt(k)]++;  
```

  - Anatomy of the statement above??
Lydia Kavraki

- **Awards**
  - Grace Murray Hopper
  - Brilliant 10

"I like to work on problems that will generally improve the quality of our life,"

**What’s the thing you love most about science?**

“Working with students and interacting with people from diverse intellectual backgrounds. Discovery and the challenge of solving a tough problem, especially when it can really affect the quality of our lives. I find the whole process energizing.”