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

```java
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.”