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.”