Another Program

```java
public class Welcome {
    public static void main(String[] args) {
        String[] greeting = new String[3];
        greeting[0] = "Welcome to ";
        greeting[1] = "the second class of";
        greeting[3] = "CS520";

        for (int i = 0; i < greeting.length; i++)
            System.out.println(greeting[i]);
    }
}
```
Setting Execution Path

/usr/local2/bin/java
Bourne Shell

export PATH=/usr/local2/bin:$path

Cshell

export path=(/usr/local2/bin $path)
Setting Class Path

Bourne Shell

export CLASSPATH=

Cshell

setenv CLASSPATH .
Primitive Data Types

- boolean
- char
- byte
- short
- int
- long
- float
- double
Basic Programming Structures

Same as C++

- Statements
- Assignments
- Blocks
- Conditional Statements
- While Loops
- Do Loops
- For Loops
- Switch Statement
Classes and Objects

- An Object is defined by its class.
- Classes define methods.
- Each object is an instance of a class.
- A method is invoked on an object.
Strings

class StringsDemo {
    public static void main(String[] args) {
        String myName = "Petronius";

        myName = myName + " Arbiter";
        System.out.println("Name = " + myName);
    }
}
A Simple Class: Celestial Bodies

class Body {
    public long idNum;
    public String name;
    public Body orbits;

    public static long nextID = 0;
}

Body mercury
Class Members

- Fields
- Methods
Creating Objects

```java
Body sun = new Body();
sun.idNum = Body.nextID++;
sun.name = "Sol";
sun.orbits = null; // in solar system,
    // sun is middle

Body earth = new Body();
earth.idNum = Body.nextID++;
earth.name = "Earth";
earth.orbits = sun;
```
Constructors

class Body {
    public long idNum;
    public String name = "<unnamed>";
    public Body orbits = null;

    public static long nextID = 0;

    Body()
    {
        idnum = nextID++;
    }
}
Constructors (cont)

```java
Body sun = new Body(); // idNum is 0
sun.name = "Sol";

Body earth = new Body(); // idNum is 1
earth.name = "Earth";
earth.orbits = sun;
```
Constructors (cont)

```java
Body(String bodyName, Body orbitsAround) {
    this();
    name = bodyName;
    orbits = orbitsAround;
}

Body(Body other) {
    idNum = other.idNum;
    name = other.name;
    orbits = other.orbits;
}
```
class Body {
    public long idNum;
    public String name = "<unnamed>";
    public Body orbits = null;
    private static long nextID = 0;
    {
        idNum = nextID++;
    }
    public Body(String bodyName, 
                Body orbitsAround) 
    {
        name = bodyName;
        orbits = orbitsAround;
    }
}