

Setting Execution Path

```
/usr/local2/bin/java  
Bourne Shell  
  
export PATH=/usr/local2/bin:$path  
Cshell  
  
export path=(/usr/local2/bin $path)
```

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Primitive Data Types

- ▶ boolean
- ▶ char
- ▶ byte
- ▶ short
- ▶ int
- ▶ long
- ▶ float
- ▶ double

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Another Program

```
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]);  
    }  
}
```

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Setting Class Path

```
Bourne Shell  
  
export CLASSPATH=  
Cshell  
  
setenv CLASSPATH .
```

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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.

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A Simple Class: Celestial Bodies

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

    public static long nextID = 0;
}
```

Body mercury

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Basic Programming Structures

- Same as C++
- ▶ Statements
 - ▶ Assignments
 - ▶ Blocks
 - ▶ Conditional Statements
 - ▶ While Loops
 - ▶ Do Loops
 - ▶ For Loops
 - ▶ Switch Statement

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Strings

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

        myName = myName + " Arbiter";
        System.out.println("Name = " + myName);
    }
}
```

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Creating Objects

```
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;
```

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Constructors (cont)

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

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

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Class Members

- ▶ Fields
- ▶ Methods

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Constructors

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

    public static long nextID = 0;

    Body() {
        idNum = nextID++;
    }
}
```

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Continued

```
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;}
}
```

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Constructors (cont)

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

Body(Body other) {
    idNum = other.idNum;
    name = other.name;
    orbits = other.orbits;
}
```

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