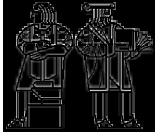


# Java Semantics, Revisited



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## Yesterday Revisited

### I assumed too much

Knowledge of C-like syntax

### Don't panic

It will make sense soon

### Better to be confused now, then a month from now

Especially if you know that you are confused



## Key Concepts from Yesterday

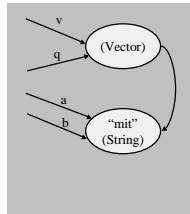
Variables hold object references (or primitive values like 5)

### Sharing, equality & mutability

An object can be mutable (state may change) or immutable

Two variables can point to the same object

```
//Lect3Ex0
Vector v = new Vector ();
Vector q = v;
String a = "mit";
String b = a;
v.addElement (a);
System.out.println (q.lastElement ());
```



## Compile-time & Runtime types

A variable has a declared compile-time type

An object has a type at runtime

Runtime type is a specialization of compile-time type

```
//Lect3Ex1
Integer i1 = new Integer (3);
String s = new String ("ABC");
Vector v = new Vector ();
while (true) {
    if (Math.random() > .1)
        v.insertElementAt (i1, 0);
    else v.insertElementAt (s, 0);
    i1 = (Integer) v.elementAt(0);
    System.out.println("OK");
}
```