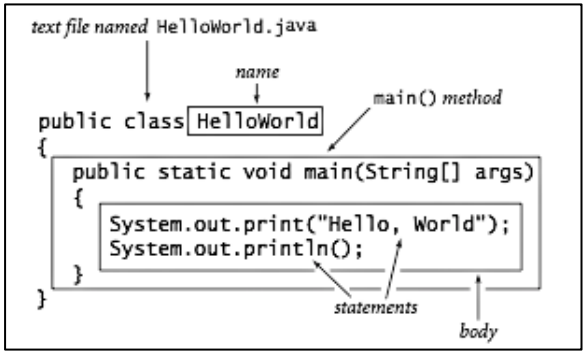
"Hello, world!" example



if, if/else, and if/else if/else statements

```
if ((hole > 0) && (hole < 19)) {
  parList[hole] = par;
  isValid = true;
}
```

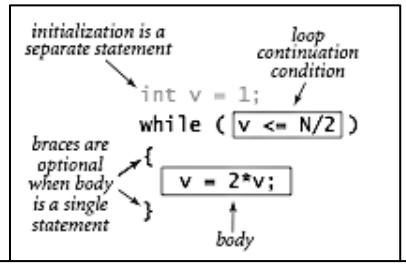
```
if ((handicap>=0) && (handicap<=40)) {
  isValid = true;
} else {
  System.out.println("Invalid");
  isValid = false;
}
```

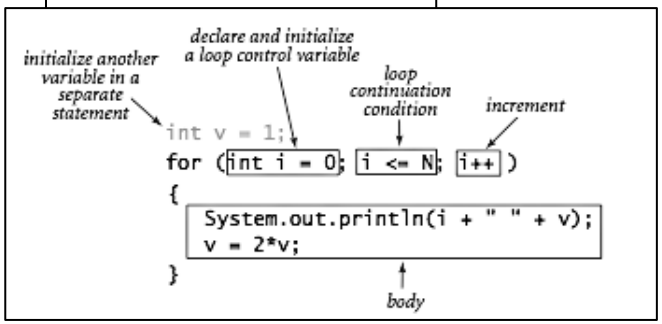
```
if (x == 1)
  amount = 10000;
else if (x == 2)
  amount = 20000;
else
  amount = 30000;
```

Primitive types

type	*set of values*	*common operators*	*sample literal values*
`int`	integers	`+ - * / %`	`99 -12 2147483647`
`double`	floating-point numbers	`+ - * /`	`3.14 -2.5 6.022e23`
`boolean`	boolean values	`&& || !`	`true false`
`char`	characters		`'A' '1' '%' '\n'`
`String`	sequences of characters	`+`	`"AB" Hello" "2.5"`

while and for loops





Comparison operators

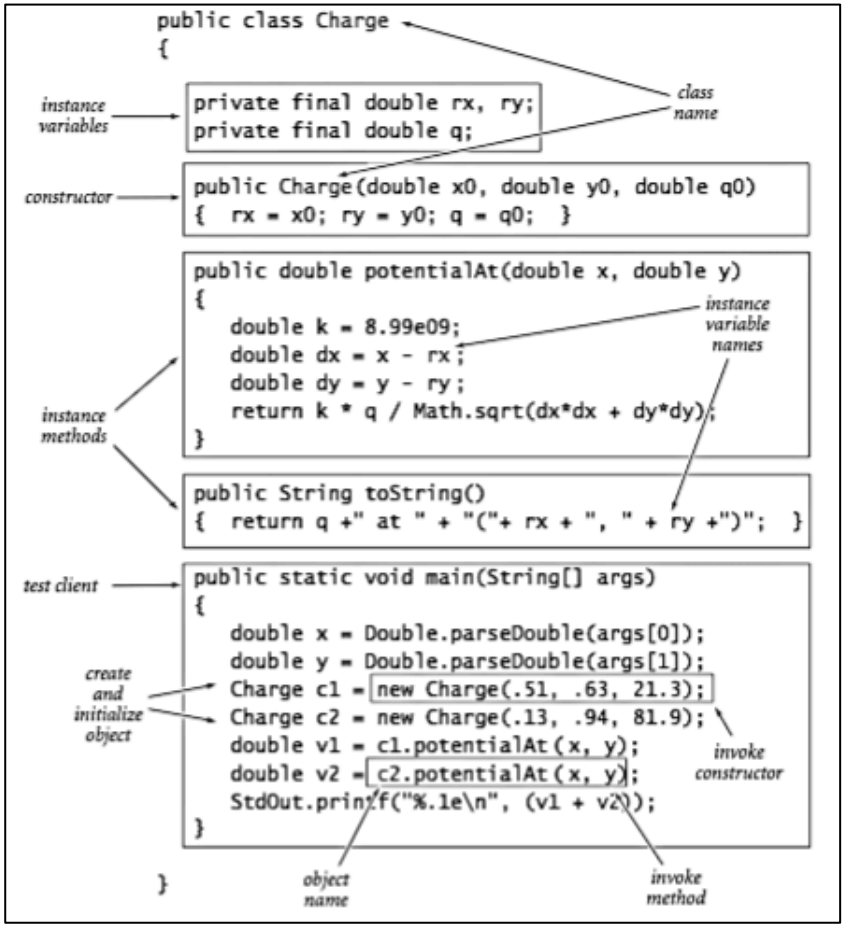
This symbol is an ==

op	*meaning*	`true`	`false`
`==`	*equal*	`2 == 2`	`2 == 3`
`!=`	*not equal*	`3 != 2`	`2 != 2`
`<`	*less than*	`2 < 13`	`2 < 2`
`<=`	*less than or equal*	`2 <= 2`	`3 <= 2`
`>`	*greater than*	`13 > 2`	`2 > 13`
`>=`	*greater than or equal*	`3 >= 2`	`2 >= 3`

Logic operators

values	true or false		
literals	`true`	`false`	
operations	and	or	not
operators	`&&`	`||`	`!`

Class-Related Syntax



Class Inheritance

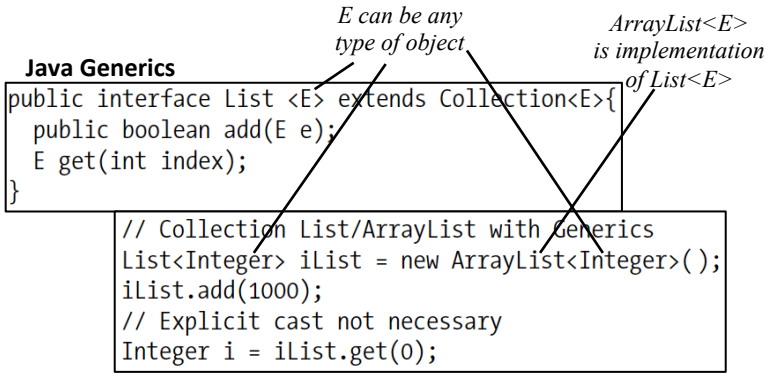
```
public class Machine {
  boolean state;
  void setState(boolean s) {state = s;}
  boolean getState( ) {return state;}
}
public class VotingMachine extends Machine  {
  ...
}
```

Interface and Implementation

```
interface Reportable  {
  void genReport(String repType);
  void printReport(String repType);
}
```

```
class VotingMachine implements Reportable  {
  public void genReport (String repType)  {
    Report report = new Report(repType);
  }
  public void printReport(String repType) {
    System.out.println(repType);
  }
}
```

Java Generics



Code samples from http://introcs.cs.princeton.edu/java/11cheatsheet/ and the Java Pocket Guide