Java Syntax Guide

Variables / Data Types

Declarations: `varType varName = val`
Example: `float myFloat = 5.0`
Primitives: `int, float, double, char, boolean, short, byte,`
Strings are objects.

Logic

Booleans: `true, false`
Comparisons: `> < >= <= != ==`
If Statements:

```
if (booleanExpression) {
      // logic for true
} else if (other) {
      // logic for second
} else {
      // logic for else
}
```

While Statements:

```
while (boolExpress) {
      // statement
}
```

Loops:

```
for (int i=0; i<count; i++)
```

Operations

Sum: `a+b`
Difference: `a-b`
Product: `a*b`
Quotient: `a/b`
Mod: `a%b`
Power (a^b): `Math.pow(a,b)`

Arrays

Declaration: `type [] myArray;`
Allocation: `myArray = new type[size];`
Element Access: `lstName[indexNumber]`
Length: `lstName.length`
Arrays are immutable. Use ArrayLists for mutable lists.

Little Things

Semicolons required
Whitespace doesn't matter
Object Oriented Language
Program must begin with: `public static void main (String [] args) {}`

Functions

Func. Call: `funcName(args)`
Func. Defintion: `def funcName(params):`

Classes

Example Class:

```
public class ClassName {

   public type publicVar;
   private type privateVar;

   // constructor
   public ClassName (args) {}
```

Object Instantiation:

```
   ClassName objectRef = new
      ClassName(args)
```

Method Invocation:

```
   objectRef.methodName(args)
```

Comments

```
// use slashes for single lines
/*
   and these for multiple lines
*/
```

Command Line

Input:

```
Scanner scan = new Scanner
(System.in);
   String in = scan.nextLine();
```

Output: `System.out.print("Msg");`

Equality

Object Equality: `.equals()`
Referencial Equality: `==`