

**Java Extension Packages**

import <class>

**Packages**

package package\_path.package\_name;

**Common Extensions**

java.awt, java.io, java.lang, java.util, javax.swing

**Data Types**

boolean, char, byte, short, int, long, float, double, String

**Comments**

// Single line Comment

/\* Multiple line Comment \*/

**Arithmetic Operators**

+ (Addition), - (Subtraction), \* (Multiplication), / (Division), % (Modulus)

**Equality Operators**

== (Equal To),

!= (Not Equal To)

**Relational Operators**

> (Greater Than), < (Less Than), >= (Greater Than or Equal To), <= (Less Than or Equal To)

**In-/Decremental Operators**

++x (PreIncrement), x++ (PostIncrement), --x (PreDecrement), x-- (PostDecrement)

**Logical Operators**

&& (logical AND), & (boolean logical AND), || (logical OR), | (boolean logical inclusive OR), ^ (boolean logical exclusive OR), ! (logical NOT)

**Escape Sequences**

\n (newline)

\t (horizontal tab)

\r (carriage return)

\\ (backslash)

\" (double quote)

**Other**

?: (Conditional)

= (Assignment)

**If Else**

```
if (<condition>) {  
    <statement(s)>;  
}
```

```
else {  
    <statement(s)>;  
}
```

**Switch Case**

```
switch(<expression>){
```

```
    case <option 1>:
```

```
        <statement>;
```

```
        break;
```

```
    case <option 2>:
```

```
        <statement>;
```

```
        break;
```

```
[default:
```

```
<statement>;
```

```
]
```

```
}
```

**For Loop**

```
for (<initial value>; <condition>; <in-/decrement>){  
    <statement(s)>;  
}
```

**While Loop**

```
while (<condition> )  
{ <statement(s)>; }
```

**Do While Loop**

```
do {  
    <statement(s)>;  
} while (<condition>);
```

**Arrays**

```
int c[] = new int[5]; //declare and allocate in one
```

```
//declare and allocate in two
```

```
int myArray[ ];
```

```
myArray = new int[5];
```

```
//initialize
```

```
myArray = {10, 20, 30, 40, 50}
```

```
//access 3rd Element
```

```
myArray[2] = var;
```

**Method**

```
<access modifier> <return data type> <function name> (<parameters>)
```

```
{
```

```
    <declarations>
```

```
    <statements>
```

```
    [return;]
```

```
    [return <expression>;]
```

```
}
```

**Class**

```
<access modifier> <return data type> <class name> [extends
```

```
<superclass name>][implements <interface name>]
```

```
{
```

```
    <declarations>
```

```
    <methods>
```

```
}
```

**Exception Handling**

```
try{
```

```
    //Code, can include method calls
```

```
}
```

```
catch(Exception e){
```

```
    //What to do on error. Multiple catches may be used
```

```
}
```

```
finally{
```

```
    //this code is executed with or without an error }
```

**File IO**

**// Read in a Text File**

```
//should be contained in a try catch block
```

```
BufferedReader in = new BufferedReader(new
```

```
FileReader(directory.getPath()));
```

```
//directory is a File object
```

```
String nextLine = in.readLine(); //reads first line, repeat for next line
```

```
in.close();
```

**// Write to a Text File**

```
//should be contained in a try catch block
```

```
DataOutputStream out = new DataOutputStream(new
```

```
FileOutputStream(myfile.dat);
```

```
//creates myfile.dat, can add directory
```

```
out.writeUTF(theText); //writes String object theText
```

```
out.close();
```