Cheatography

Java Fundamentals Cheat Sheet

by sschaub via cheatography.com/1000/cs/464/

Java Data Types

byte / short / int / long	-123, 10
float / double	235.13
char	'U'
boolean	true, false
String	"Greetings from earth"

Java Statements

If Statement

```
if ( expression ) {
  statements
} else if ( expression ) {
  statements
} else {
  statements
}
```

While Loop

```
while ( expression ) {
  statements
}
```

Do-While Loop

```
do {
  statements
} while ( expression );
```

For Loop

```
for ( int i = 0; i < max; ++i) {
  statements
}
```

For Each Loop

```
for ( var : collection ) {
  statements
}
```

Switch Statement

Java Statements (cont)

```
switch ( expression ) {
  case value:
    statements
    break;
  case value2:
    statements
    break;
  default:
    statements
}
```

Exception Handling

```
try {
  statements;
} catch (ExceptionType e1) {
  statements;
} catch (Exception e2) {
  catch-all statements;
} finally {
  statements;
}
```

Java Data Conversions

String to Number

```
int i = Integer.parseInt(str);
double d = Double.parseDouble(str);
```

Any Type to String

```
String s = String.valueOf(value);
```

Numeric Conversions

```
int i = (int) numeric expression;
```

Java String Methods

s.length()	length of *s*
s.charAt(*i*)	extract *i*th character
s.substring(*start*, *end*)	substring from *start* to *end*-1
s.toUpperCase()	returns copy of *s* in ALL CAPS
s.toLowerCase()	returns copy of *s* in lowercase
s.indexOf(*x*)	index of first occurence of *x*
s.replace(*old*, *new*)	search and replace
s.split(*regex*)	splits string into tokens
s.trim()	trims surrounding whitespace
s.equals(*s2*)	true if s equals s2
s.compareTo(*s2*)	0 if equal/+ if s > s2/- if s < s2

See http://docs.oracle.com/javase/6/docs/api/java/lang/String.html for more.

java.util.ArrayList Methods

l.add(*itm*)	Add *itm* to list
l.get(*i*)	Return *i*th item
l.size()	Return number of items
l.remove(*i*)	Remove *i*th item
l.set(*i*, *val*)	Put *val* at position *i*

```
ArrayList<String> names =
  new ArrayList<String>();
```

See http://docs.oracle.com/javase/6/docs/api/java/util/ArrayList.html for more.

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java.util.HashMap Methods

m.put(*key*,*value*)	Inserts *value* with *key*
m.get(*key*)	Retrieves value with *key*
m.containsKey(*key*)	true if contains *key*

```
HashMap<StÂrinÂg,String> names =
  new HashMap<StÂrinÂg, String>();
```

See http://docs.oracle.com/javase/6/docs/api/java/util/HashMap.html for more.

Java Hello World

```
import java.util.Date;
public class Hello {
  public static void main(String[] args) {
    System.out.println("Hello, world!");
    Date now = new Date();
    System.out.println("Time: " + now);
  }
}
```

* Save in Hello.java
* Compile: **javac Hello.java**
* Run: **java Hello**

Java Arithmetic Operators

x + y	add	x - y	subtract
x * y	multiply	x / y	divide
x % y	modulus	++x / x++	increment
		--x / x--	decrement

Assignment shortcuts: x *op*= y
Example: x += 1 increments x

Java Comparison Operators

x < y	Less	x <= y	Less or eq
x > y	Greater	x >= y	Greater or eq
x == y	Equal	x != y	Not equal

Java Boolean Operators

! x (not)	x && y (and)	x || y (or)

Java Text Formatting

printf style formatting

```
System.out.printf("Count is %d\n", count);
s = String.format("Count is %d", count);
```

MessageFormat style formatting

```
s = MessageFormat.format(
  "At {1,time}, {0} eggs hatched.",
  25, new Date());
```

Individual Numbers and Dates

```
s = NumberFormat.getCurrencyInstance()
  .format(x);
s = new SimpleDateFormat(""h:mm a"")
  .format(new Date());
s = new DecimalFormat("#,##0.00")
  .format(125.32);
```

See http://docs.oracle.com/javase/6/docs/api/java/text/package-frame.html for MessageFormat and related classes

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