Cheatography

Java Basics to Intermediate Cheat Sheet

by EthanHann via cheatography.com/34848/cs/10942/

Primitive Data Types

type	*size*	*range of values*
byte	8-bit *signed* 2's comp	(-128 -> 127)
short	16-bit *signed* 2's comp	(-32,768 -> 32,767)
int	32-bit *signed* 2's comp	(-2^{31} -> 2^{31}-1)
long	64-bit *signed* 2's comp	(-2^{63} -> 2^{63}-1)
long	64-bit *unsigned*	(0 -> 2^{64}-1)
float	single-precision 32-bit *signed*	(-3.40282347 x 10^{38} -> 3.40282347 x 10^{38})
double	double-precision 64-bit *signed*	(-1.79769313486-231570 x 10^{308} -> 1.7976931348-6231570 x 10^{308})
char	16-bit *unsigned* Unicode character	(0 -> 65,535)
boolean	*size not defined*	true / false

Hello World

```
{{noshy}}public class HelloWorld
{
    public static void
main(String[] args)
       {
        System.out.println("Hello
World!");
       }
}
```

Declaring and Initalizing

Operations on Number Variables

Integer	*sign*	+ -	+99 -or- -99
	add	+	5 + 3 = 8
	subtract	-	5 - 3 = 2
	multiply	*	5*3 = 15
	divide	/	5/3 = 1 *no fractional part*
	remainder	%	5 % 3 = 2
Floating-Point Numbers	*add*	+	3.141 + 2.0 = 5.141
	subtract	-	3.141 - 2.0 = 1.111
	multiply	*	3.141 * 2.0 = 6.282
	divide	/	3.141 / 2.0 = 1.5705

Boolean Operations

Values	Literals	Operations	Operators
true	true	and	&&
false	false	or	||
		not	!

a	b	a && b	a || b
false (0)	false (0)	false	false
false (0)	true (1)	false	true
true (1)	false (0)	false	true
true (1)	true (1)	true	true

Comparison Operators

Printing and Parsing

Printing to console

```
System.ou t.p rin t(S tring s); prin
System.ou t.p rin tln (String s);
```

print s followed by newline

```
System.ou t.p rin tln(); print a newlin
```

Parse command-line args

```
int Intege r.p ars eIn t(S tring s
```

convert s to an int value

```
double Double.pa rse Dou ble (Stri
 s); convert s to a double value
long Long.p ars eLo ng( String s);
```

convert s to a long value

Integers

`int a, b;` <-- Declare two integer variables

`a = 100;` <-- Initialize 'a' with a value of 100

`b = 18;` <-- Initialize 'b' with a value of 18

`int c = a + b;` <-- Declare *and* initialize c with the value of a plus b

Double

```
double a, b;
a = 1.57;
b = 9.8765;
double c = a + b;
```

It is the same for every **primitive** data type.

Operator	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

Examples:

Check if a number is a multiple of 2

`(x % 2 == 0)` returns true if x is a multiple of 2

Check months

`(month >= 1) && (month <= 12)` returns true if month is between 1 and 12

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