* Java cares about type.
  → It won't let you do to put Giraffe reference into a Rabbit variable
    Rabbit hopper = new Giraffe();
  → It won't let you put floating point number into an integer variable unless you acknowledge to the compiler.
* Variables come in two flavours
  primitive & object reference.

* Declaring a Variable
  • Variables must have a type
  → Variables must have a name
    int count;
    ↗ type ↑ name

Primitive Types

Type	Bit Depth	Value Range
boolean		true or false
char	16 bits	0 to 65535
numeric (all are signed)		
REMEMBER TO: integer		
byte	8 bits	-128 to 127
short	16 bits	-32768 to 32767
int	32 bits	-2147483648 to 2147483647
long	64 bits	- huge to huge
floating point: float	32 bits	Varies
floating point: double	64 bits	Varies

DATE: MON TUE WED THUR FRI SAT SUN

Primitive declarations with assignments

```
int x;
x = 234;
byte b = 89;
boolean isFun = true;
double d = 3456.98;
char c = 'f';
int z = x;
boolean isPunkRock;
isPunkRock = false;
boolean powerOn;
powerOn = isFun;
long big = 3456789;
float f = 32.5f;
```

You can assign a value to a variable in one of several ways including

* type a literal value after the equals sign (x = 12, isGood = true etc.)
* assign the value of one variable to another (x = y)
* use an expression combining the two (x = y + 43)

don't put big thing into a small thing

```
int x = 24;
byte b = x; // won't work!
```

Variable names

→ It must start with a letter, underscore(_), or dollar sign ($). You can't start a name with a number.

→ After the first character, you can use numbers as well. Just don't start it with a number.

→ It can be anything you like, subject to those two rules, just so long as it isn't one of Java's reserved words.

↓

public static boolean double int void etc.