Primitive type: int

Mr. Neat
Java

int's…….

Q: Why numbers? A: Arithmetic!

- built into java

int's…….

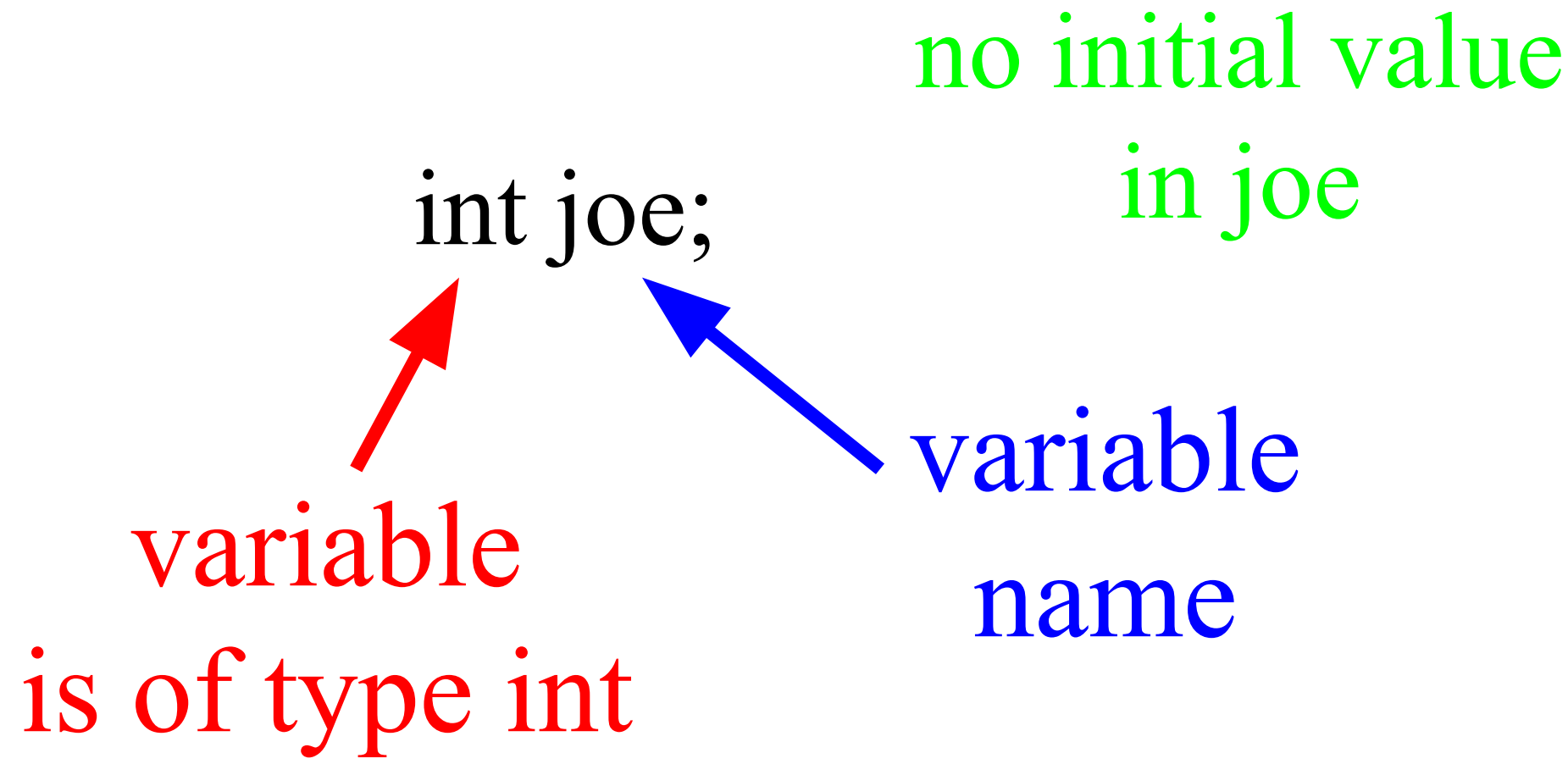
Simple Definition:

- whole number (no decimal)
- can be +, - or 0
- used for counting

Advanced Definition:

- four byte's long
- range from -2^{31} to $2^{31}-1$
- -2147483648 and 2147483647

int variables



int's…….

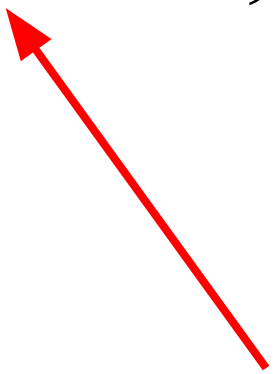
Would this compile as is?

System.out.print(joe);

Try it!!!

Setting the value of an int variable

```
int joe;  // from previous
joe  =  589;
```



assigns the variable *joe* to be 589

Setting the value of an int variable

```
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joe  =  589;
System.out.println(joe);
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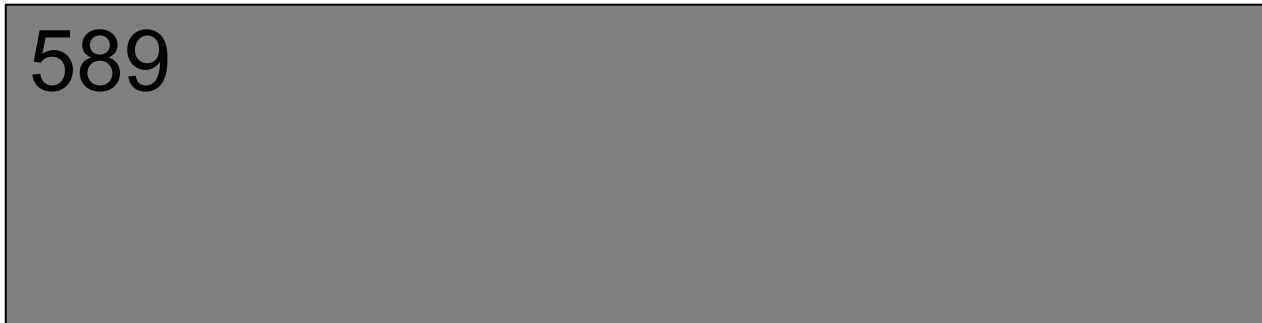

int operators

```
int tom = 2;
int sue = 3;
System.out.println(tom+sue);
System.out.println(tom-sue);
System.out.println(tom*sue);
System.out.println(tom/sue);
System.out.println(sue/tom);
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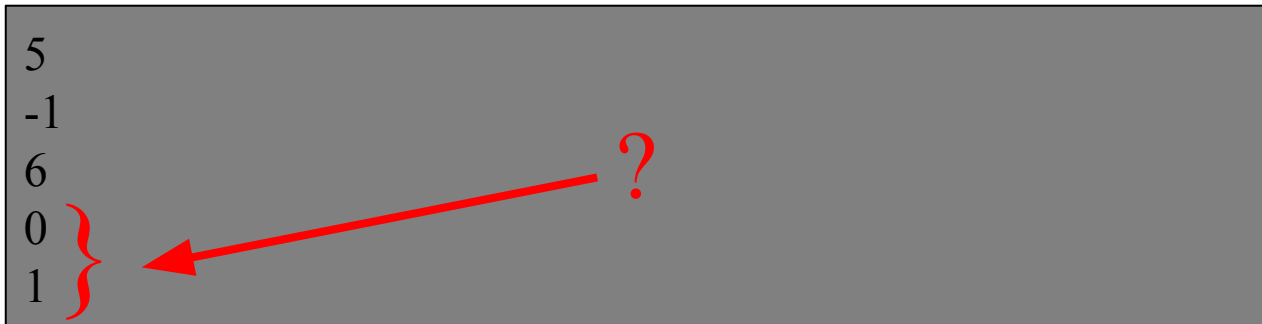

int % operator
(aka remainder operator)

5 % 3 = 2

3 goes into 5 one time, 2 leftover

5 / 3 = 1

3 goes into 5 one time, java rounds down...no decimals!

int % operator

(special case - int div and modulo by 10)

25 % 10 = 5

(% extracts the least significant digit)

25 / 10 = 2

(/ extracts the rest of the number)

int operators

- (subtract), + (plus), * (multiply),
- / (divide), % (remainder)

- What goes first?
    - ( )
    - *, / , % left to right, then +, - L to R

// Please Excuse My Dear Aunt Sally

Lab

Do the following integer math problems with a pencil and paper. Then write a program that performs the operations. Compare.

1) 5*7/2%3-1
2) 10%3-4*7+2
3) (3-7/2*5)%10