

COP 3330 8/26/26

- ① built in types (primitives)
- ② arithmetic expressions
- ③ assignment stmt (3,5) Scanner! (for input)
- ④ "formula" problems
- ⑤ if stmt

Java primitives: int, short, byte, long (integer types)
* boolean * (T/F)
float, double (floating pt)
char

everything else is a reference type.

C

```
int money;  
money = 10;
```

Python

```
money = 10 # ok!
```

Java

```
int money = 10; // ok 2 steps
```

```
boolean flag = true; // false
```

```
int money, change;
```

```
double rate1 = .065, rate2 = .07;
```

arithmetic expressions

+ addition
- subtraction
* mult
/ div
% mod

Same in every lang

int/int $\rightarrow$ int div
double/int $\rightarrow$ double
int/double $\rightarrow$ double
double/double $\rightarrow$ double div

() force order of ops.

$$10/4 \rightarrow 2$$

$$10.0/4 \rightarrow 2.5$$

$$1.0 * \text{success} / \text{total}$$

$$((\text{double})\text{success}) / \text{total}$$

$a \% b$ is the remainder when a is divided by b provided a, b are positive.

I love mod operator!

assignment stat

var = expr;

~~total = left + right;~~ OK
(assuming vars are declared)

① evaluate the value of the expression on the right

② Change the value of variable on the left to the value computed in #1.

~~S = X;~~ BAD
~~X + Y = 7;~~ BAD

left 15

right 35

total ~~10~~ 50

length $\boxed{10}$ 12 length = 12 (note box for area
width $\boxed{5}$ hasn't changed!)

area $\boxed{50}$

Java initializes ALL int types to 0.
boolean false, double/float 0.0.

Scanner is a built in Java class
When I write

Scanner stdin = new Scanner (System.in);

↑
Variable
Scanner
reference

stdin → 

if	stmt	syntax
if	(boolean expression)	stmt;

```

] if exp is true
  DO stmt
otherwise skip

```

if (boolean expression) {
BLOCK

~~parentheses /~~
~~bracket~~
a curly braces
define a block of
stmt, syntactically
are treated as
stmt.



Alt
14 ()
9 1 Block
3

Versions

if () {

}
else {

}

if () {

}
else if () {

}
else if () {

}
:
else {

}

All else if's
are optional
else is optional
else MUST BE
last else has
NO associated
boolean expression

find 1st true, execute its code, skip end.
if nothing true + there's an else, do that

NOTE

if

if

if

if

DIFF

if

else if

else if

else

