Operators

Assignment Operator

Assignment operator

- Assignment operator (=) has the lowest precedence

```
a = b + c
```

- first the operation on the right-hand side is performed
  - the result is assigned to a variable on the left-hand side

```
// auto-casting: Java automatically promotes smaller to larger data type


short x = 5;

int y;

y = x;    // OK  (x is casted to int)


int a = 5;

short b;

b = a;   // NOK!  (you cannot put int in short)


// solution: explicit casting

b = (short) a;   // OK
```

```
int x = 1.0;                // NOK
int y = 123L;               // NOK
long z = 5;                 // OK
long w = (byte) 7;          // OK
float k = 2.3;              // NOK
float l = 2.3f;             // OK
double m = 2.3f;            // OK
double n = 3.14;            // OK
float pi = n;               // NOK
short a = 7;                // OK
short b = 5;                // OK
short c = (short) (a + b);   // OK
```

```
// compound assign operators


a += 5;
   // a = a + 5;
a -= 5;
   // a = a - 5;
a *= 5;
   // a = a * 5;
a /= 5;
   // a = a / 5;
```

Return value of assignment operator

- expression `a = 2` does two things:
  1. assings value 2 to variable a
  2. returns value 2 (!!)

```
int x = 5;
int y = (x = 3) * 2;
   // x = 3, y = 6
```

returns 3

```
// favorite exam trick
boolean isOK = false;
if (isOK = true) {
  System.out.println("A");
  else
    System.out.println("B");

// output: A
```

returns true

```
boolean isOK = false;
if (isOK == true) {
  System.out.println("A");
  else
    System.out.println("B");

// output: B
```

returns false