

CNPS 12A

4-1-10

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Recall HelloWorld.java :

Reserved Words :

class, public, static, void

Identifiers :

main, HelloWorld, args

System.out.println

In General Identifiers are :

class names

method names

variable names

Rules for valid Java Identifiers:

- must consist of only
 - letters : a, ..., z, A, ..., Z
 - underscores : _
 - dollar signs : \$
 - digits : 0, 1, ..., 9
- may not begin with a digit
- may not be a key word or one of the values : true, false.

Examples

valid

invalid

happy	✓	
-happy-	✓	
\$happy	✓	
happy2	✓	
2happy		✓
HAPPY	✓	
a_long_name	✓	
a long name		✓
A LongName	✓	
"a long name"		✓

Data Type : defines how some data is stored in memory

Basic Types

Store

int

integers

double

Real numbers

String

text

char

single characters

boolean

true, false

Two Categories of DATA

Types in Java.

Primitive Types

numeric

byte, short, int, long } integers

float, double } Reals

non-numeric

char

boolean

Class Types

String

!
many others defined by programmers

Literal values (constants)

LG

Ex.

int 6, +6, -6, 3.45

double 6.0, 1.23, 3.45, -0.000001

String "happy", "Hello World!"

boolean true, false

char 'a', 'b', 'c', 'A', ';'

'\n', '\n'

Operators: +, -, *, /, %
=, ==, +=, -=, *=, ...

Ex. 6 + 5

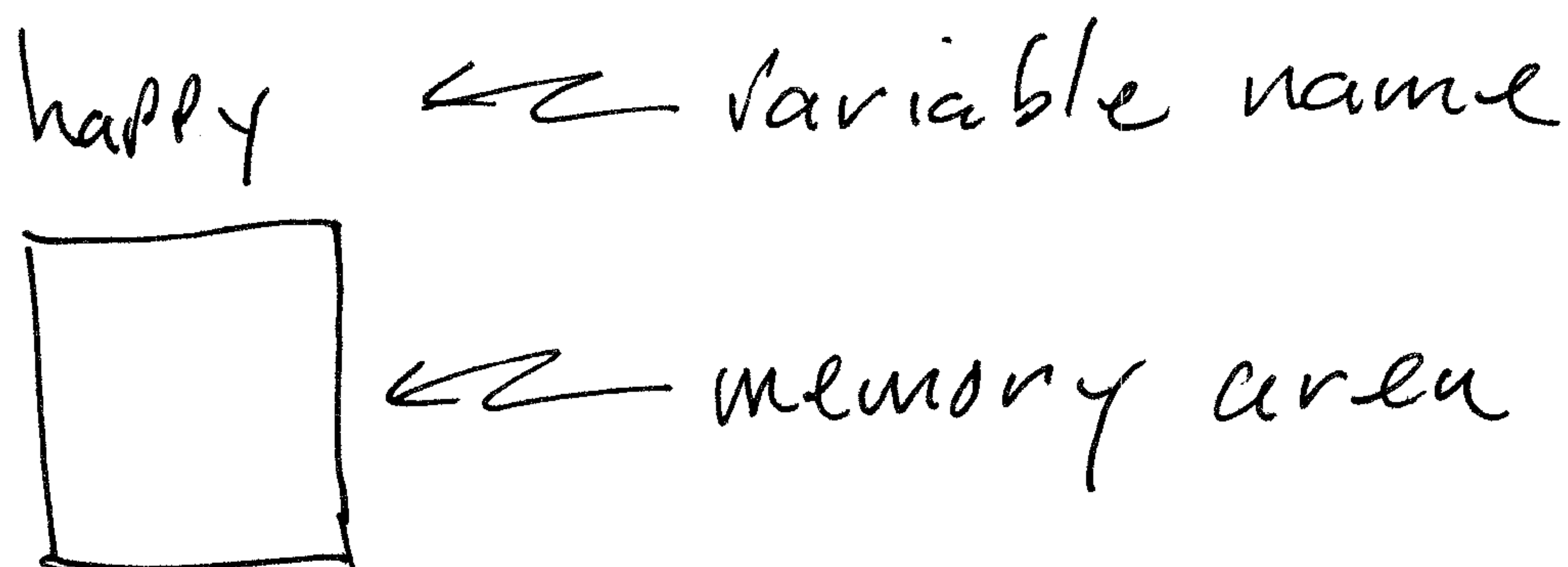
"Hello" + "World!"
 ↑
 space

Punctuation Symbols

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{, }, [,], (,), ;, @, ", ...more

Data A variable is an identifier used to refer to data stored in memory, i.e. a symbolic name for a memory area.

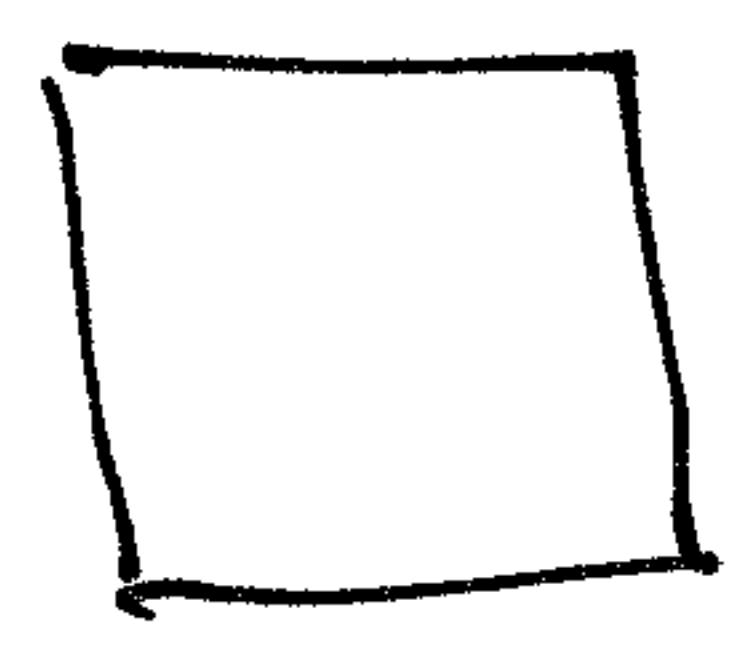


Declaration Statements

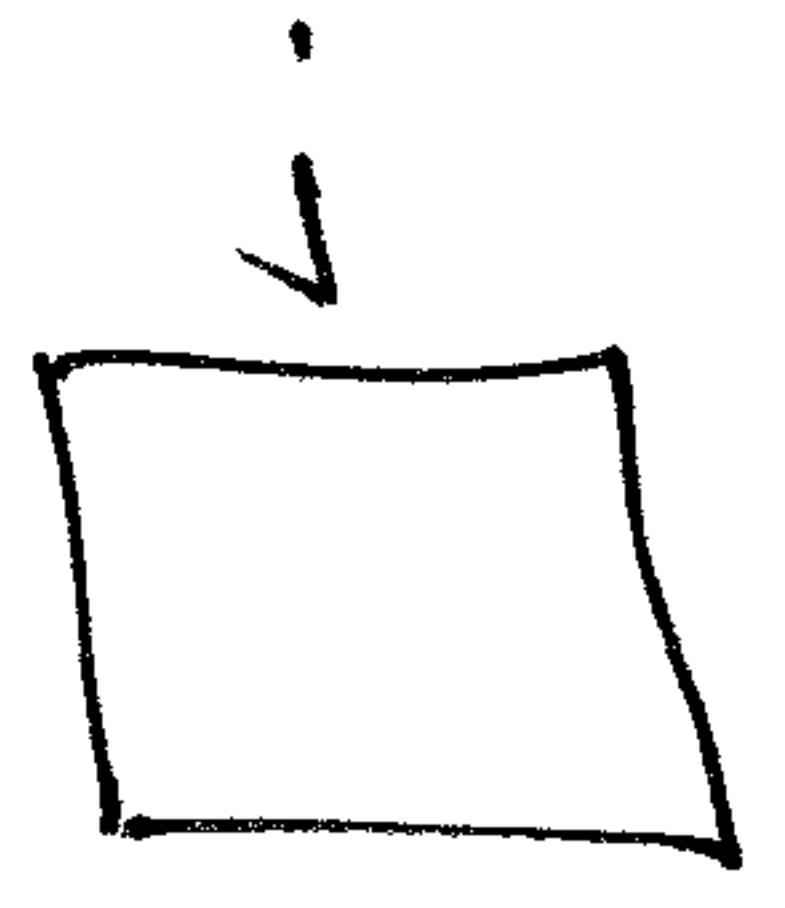
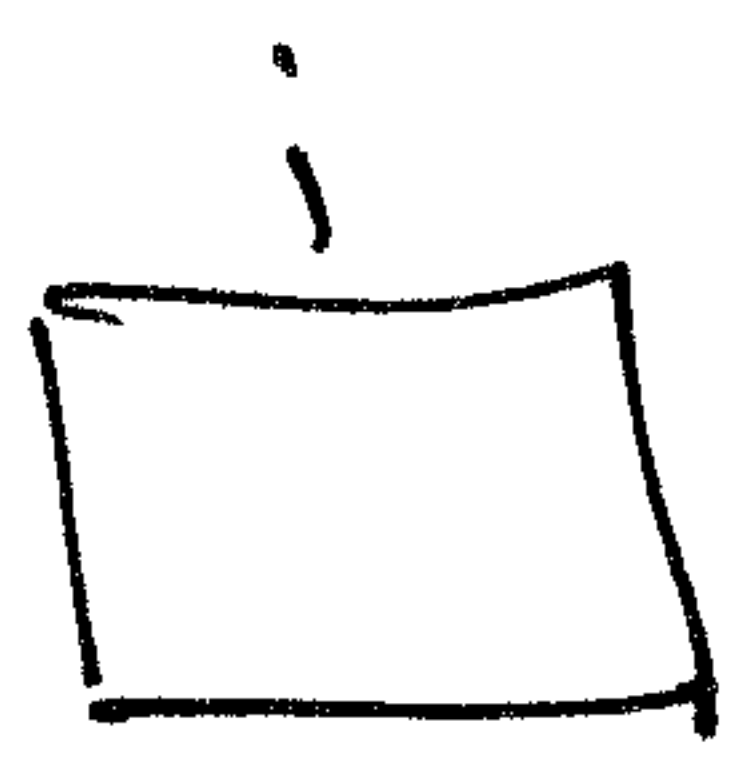
Ex,

int count;

count

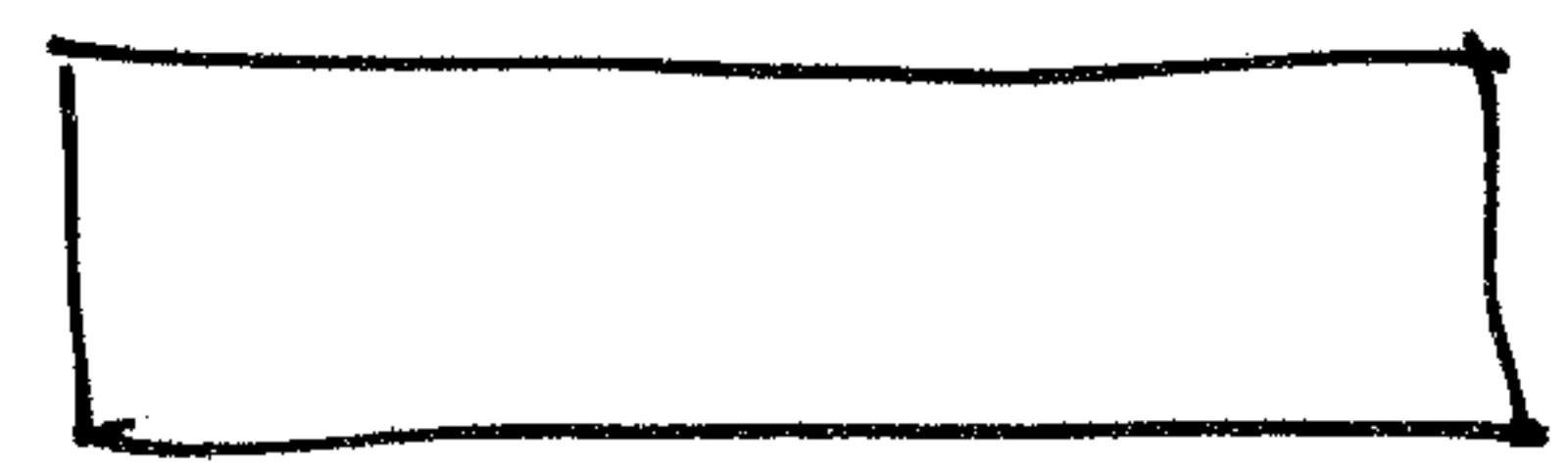


int i, j;



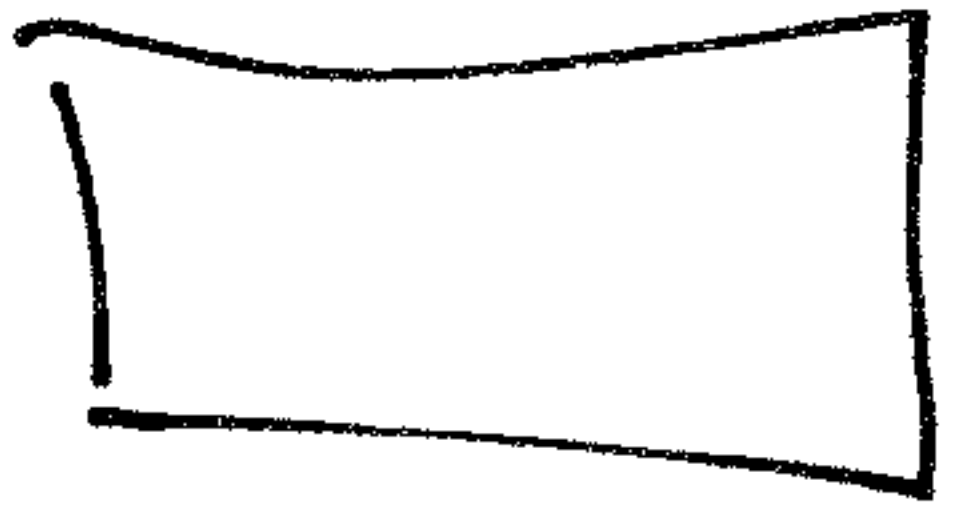
double x;

x



String word1, word2;

word1

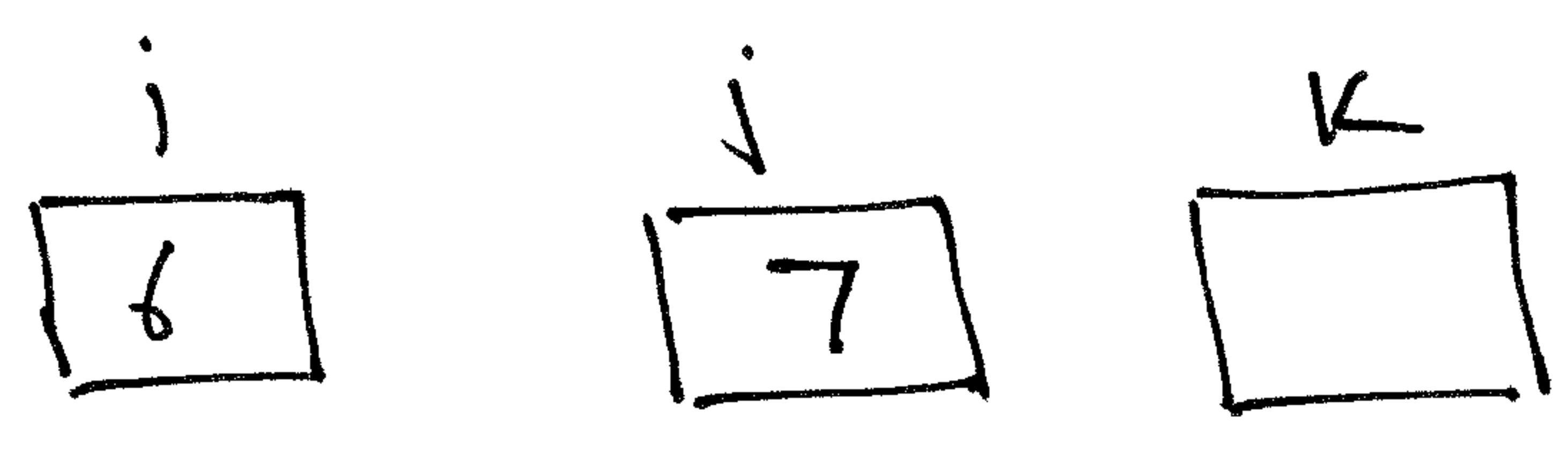


word2

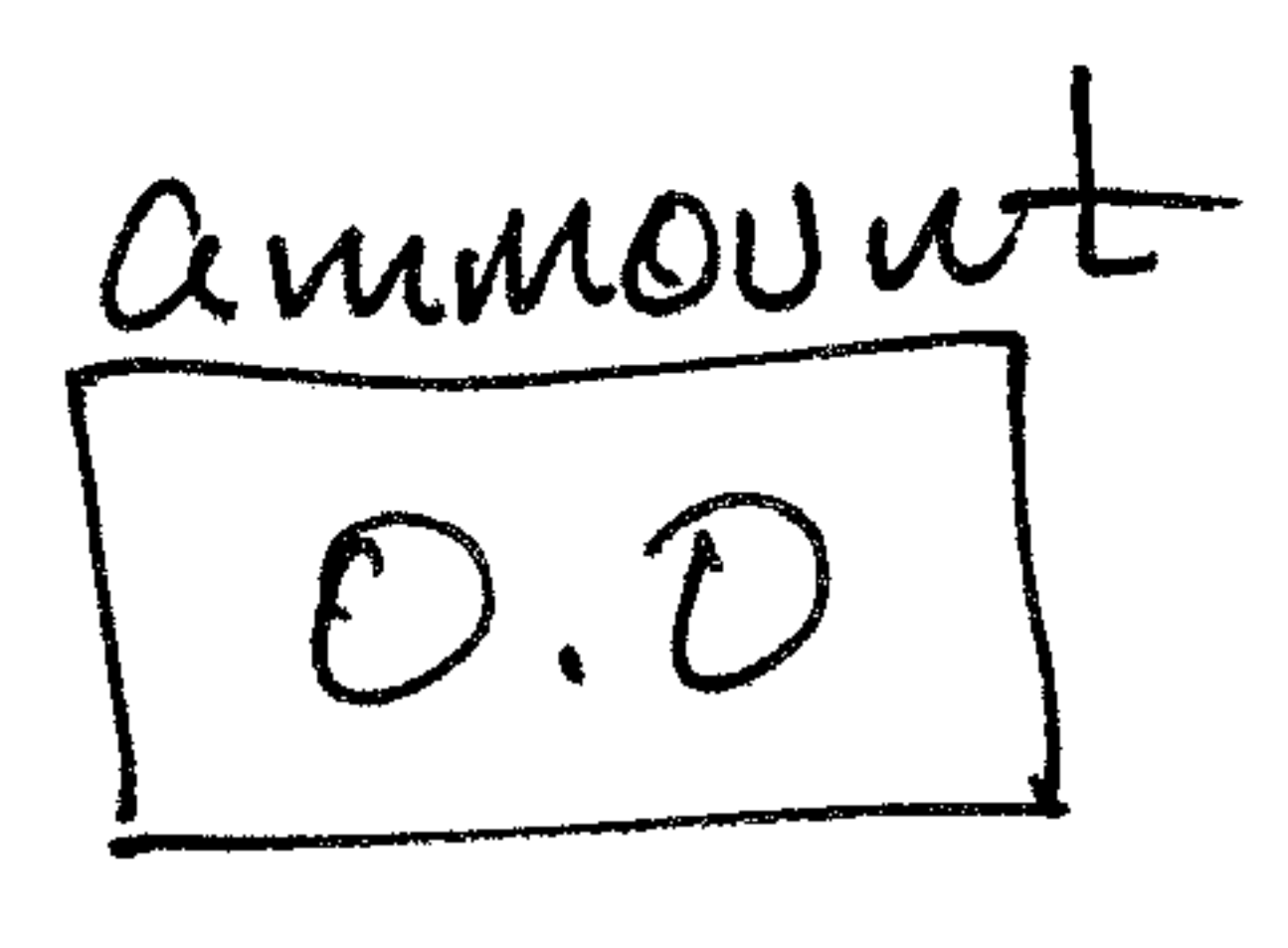


Can also initialize & declare at same time

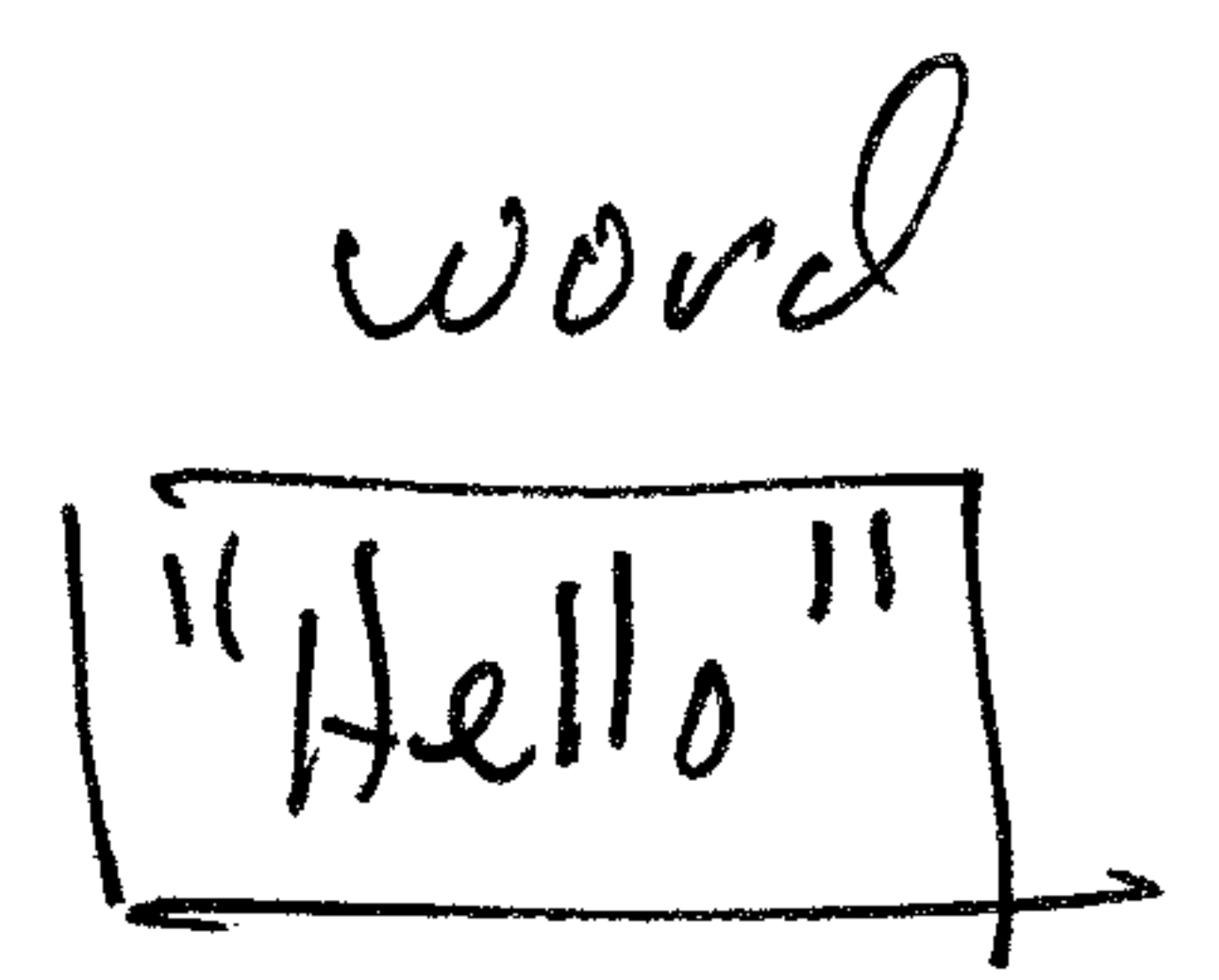
Ex. int i = 6, j = 7, k;



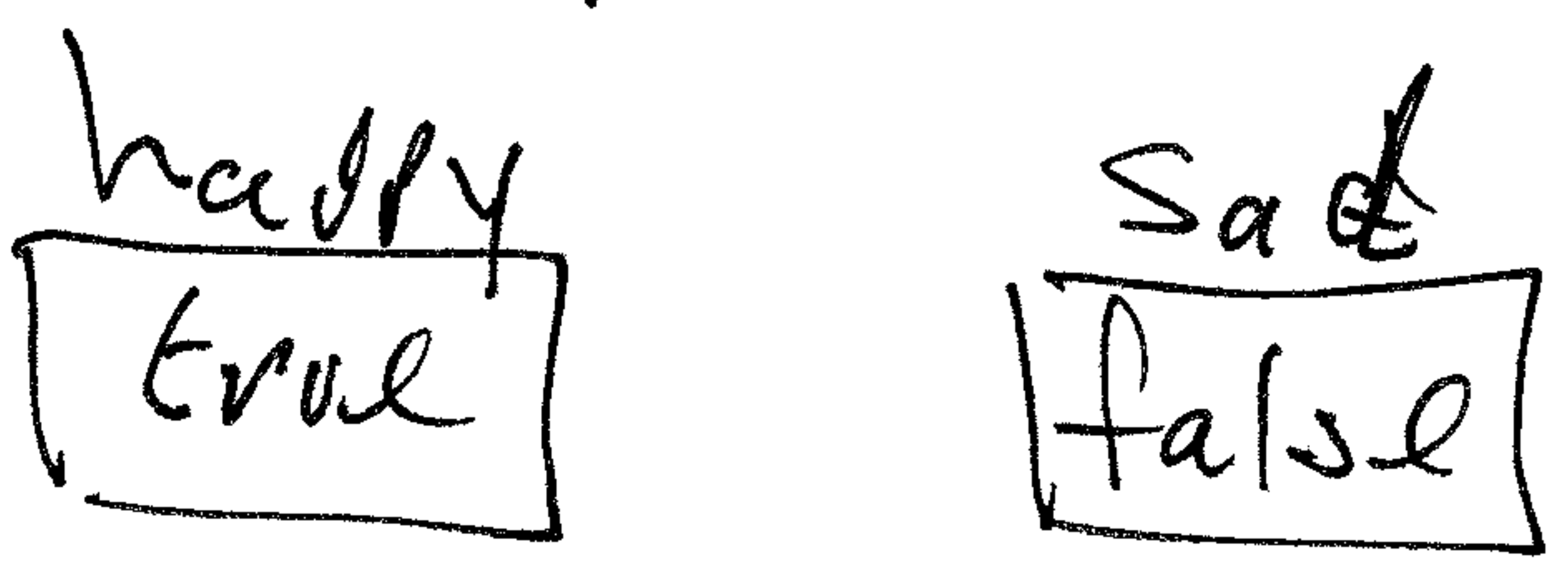
double amount = 0.0;



String word = "Hello";



boolean happy = true, sad = false;



Example HelloWorld.java

Could have had:

```
String word1, word2, sentence;
```

Could also have had on line 12:

```
sentence = word1 + word2;
```

word1

"Hello"

word2

","World!"

sentence

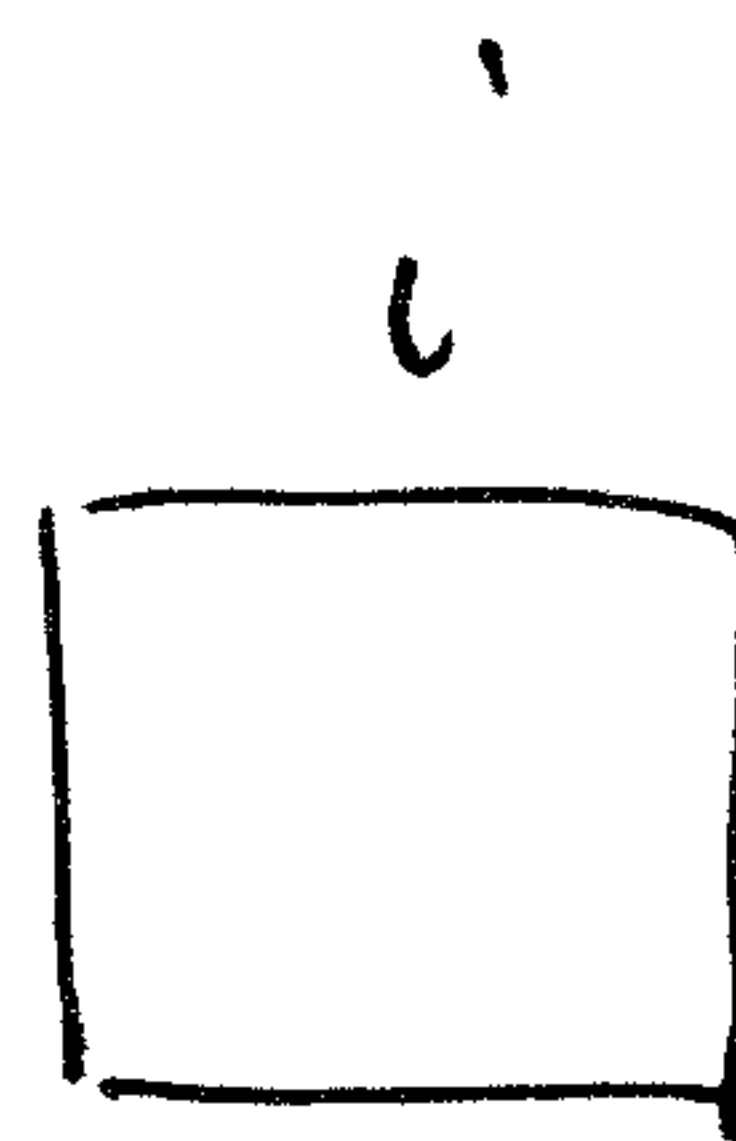
"Hello, World!"

= is the Assignment Operator

EX.

```
int i;
```

```
i = 6 + 7;
```



Form of assignment statement

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variable = expression ;