• Pair ext. to mon. 10 pm
• Lab 1 ext. to fri. 10 pm

Data Types

• Primitive types
  • Numeric: byte, short, int, long, integer, float, double, floating point
  • Char
  • Boolean
class types/reference types

String

Literal Values/Constants

are program representations of particular values of a data type.

Examples

int: 6, -57, 3.954, 1

double: 1.23, 3.45, -0.0001, 1.1, 1.0

float: 1.23f, 3.45f

char: 'a', 'A', '!', 't', 'i', 'n', 'l'

Single backslash
boolean: true, false

String: "happy", "true"

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

Ex. 6 + 5 addition operator

Ex. "Hello" + ", World!"

concatenation operator

Punctuation Symbols:
(, ), [], {}, ,, "", ;, ....
A variable is an identifier that refers to a data value stored in memory, i.e. a name to an area of memory.

\[ x \quad \leftarrow \text{variable name} \]
\[ \square \quad \leftarrow \text{memory location} \]

Variable Declaration Statements:

```
model :: datatype VariableName;
```

Example

```
int i, j, k;
```
double average;

String word1, word2;

word1

word2

We can initialize variables when they are declared.

Examples:

int i = 6, j = 7, k;

6 7

k

double amount = 0.0;

amount

0.0
String word = "hello";

word
['h', 'e', 'l', 'l', 'o']

boolean happy = true;
sad = false;

happy
true

sad
false

can also declare & initialize separately

Ex

int x, y;

x = 6;
y = 7;

assignment operator

\[ x = 6 \quad y = 7 \]
assignment statement

Variable = expression

name of some var.

Ex. HelloWorld3.java

Source file .java

javac HelloWorld3.java

Compiler (translator)

Executable file .class

HelloWorld3.class

java HelloWorld3

Output