Computer Programming Lab 3

2018.03.16

Data types

- `int` : integers for -2,147,483,648 ~ 2,147,438,647 (1, 2, 3)
- `double` : real numbers (1.1, 2.2, 3.0)
- `char` : single text characters ('a' 'X' '?')
- `boolean` : logical values

Arithmetic operators

Examples

3 * 4 = 12 (int)

3.0 * 4 = 12.0 (double)

3.0 * 4.0 = 12.0 (double)

3.0 * 4.0 = 12.0 (double)

6 / 4 = 1(int)

6.0 / 4 = 1.5 (double)

6.0 / 4.0 = 1.5 (double)

Variables, print

Example

```
int i = 5;

System.out.println(i+" squared = " + (i * i))

//printed result :  5 squared = 25

System.out.print()

System.out.println()
```

for loop

```
for([init] ; [loop cond] ; [work after loop])

{

    [do something];

}
```

init => loop cond => do something => • init => loop cond => do something => work after loop => loop cond => do something => …

for loop example

```
int result = 0;

for(int i = 0; i < 20; i++) {

    result += i;

}
```

result = 0+1+2+3+…+19

Task

Using for loop, System.out.print(" "), System.out.print("*"), System.out.println()

print n x n "*" triangle stacked on right side

Example : 5 x 5

```
    *
   **
  ***
 ****
*****
```

Optional work(Not for submission)

Write a method:

public int sumDigits(long n) that does the calculation explained below:

Given a long type value, we can think of the sum of the digits of the given number. For example, when a number 31415 is given, the sum of the digits is (3 + 1 + 4 + 1 + 5) = 14. For 14, which is the result from the operation, we can calculate its sum of the digits again. Then the result will be (1 + 4) = 5. When we reach a single digit number, we stop.

When n is negative, take its absolute value.