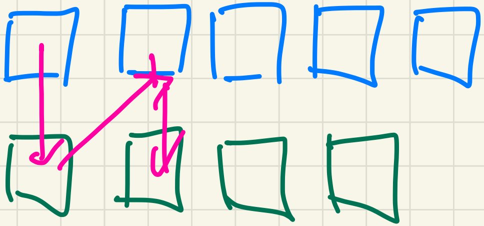
EEICS1022 Programming for Mobile Computing (Winter 2021)

Q&A - Lectures W1

Monday, January 18

Week 2 Learing Focus

- Java Tutorials Week 2 ①.
- Lectures W2 ②.
- Both emphasize the use of a debugger



1. visualize the execution.
2. slow motion (step over, step into, step out/return).

Java Tutorial

Lab 0

Week 1 ← submission

Lab 1

Week 2 → not required for submission.

Lab 2

Week 3

⋮

Lab 8

Programming Test 1 → guide by the end of this week.

Q.

Will our code documentation be evaluated on our lab/programming test submissions?

A. No in principle.

//

/*

*/

Javadoc.

↳ HTML.

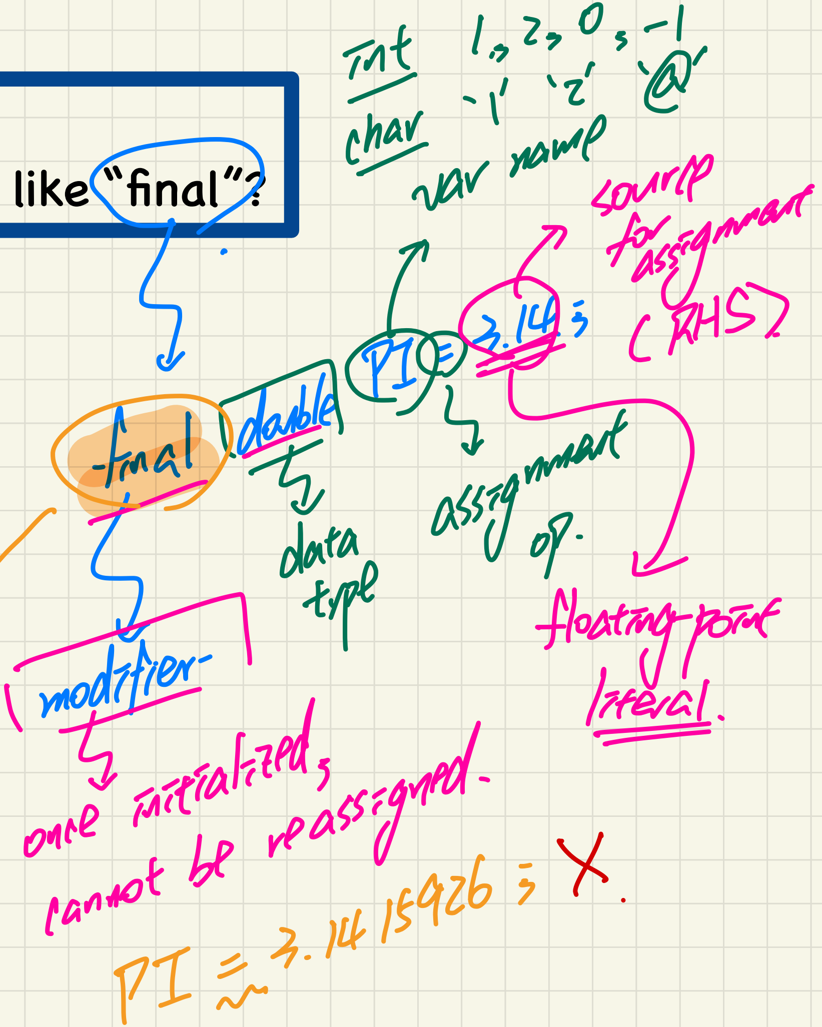
Q.

Do we need to add comments to our code for labs or programming tests?

A. Not required but you should.

Q.

Are there other keywords that are like “final”?



int 1, 2, 0, -1

char '1' '2' '@'

final double PI = 3.14;

var name

source for assignment (RHS)

modifier

once initialized, cannot be reassigned.

data type

assignment op.

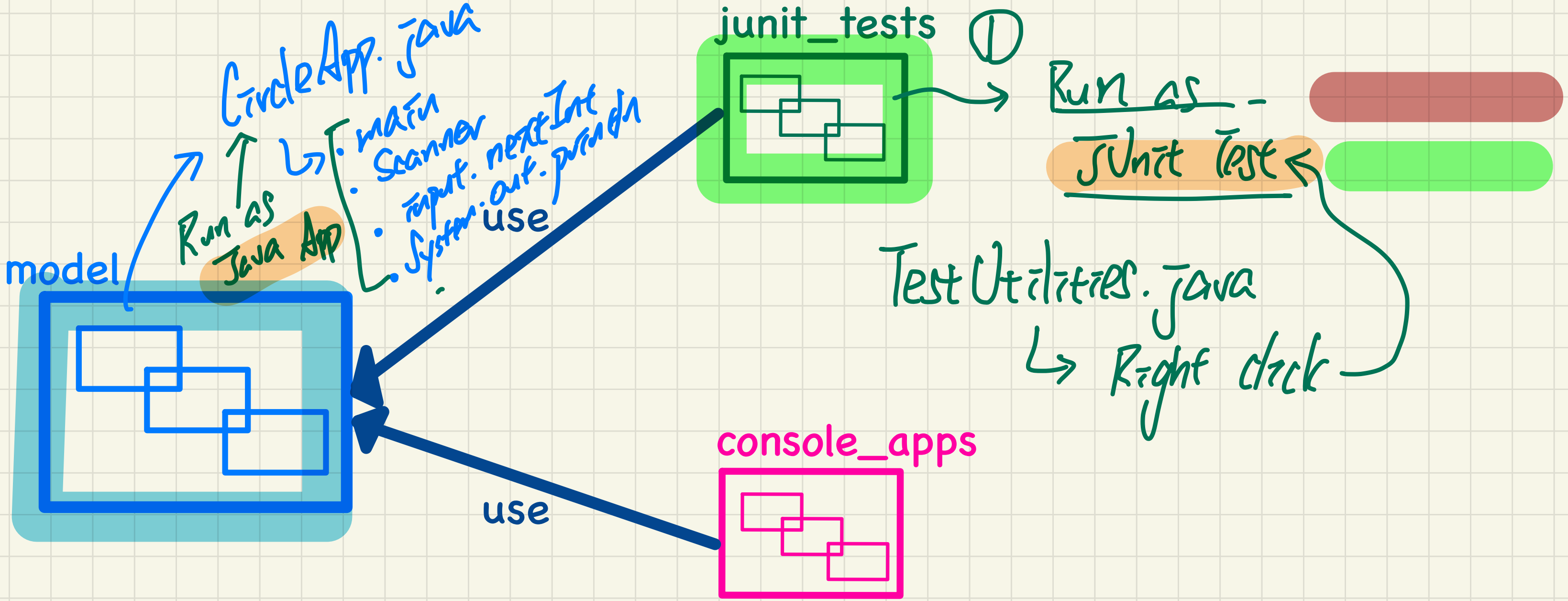
floating-point literal.

PI = 3.1415926; X.

Q:

Is the main method the starting point of executing your program only for console applications,

or for all Java programs (i.e. the model and junit_test)?

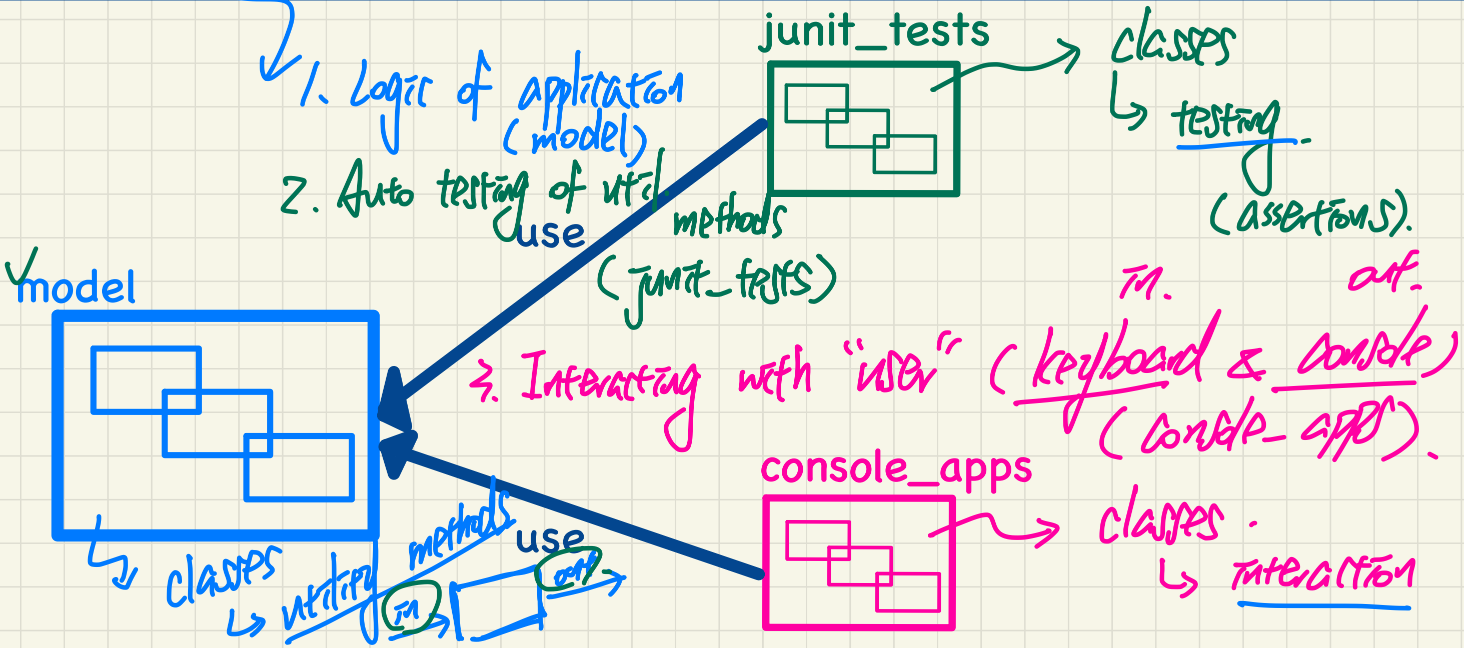


Utilities.getArea(23) public static double getArea(double radius) → input/parameters.

output/return

Q:

Regarding Separation of 'Concerns', why is the model package explicitly stated to have classes when the console_apps packages technically have classes as well (java files) (as it's stated in the code: 'public class void…')?


1. Logic of application (model)

2. Auto testing of util methods (junit_tests)

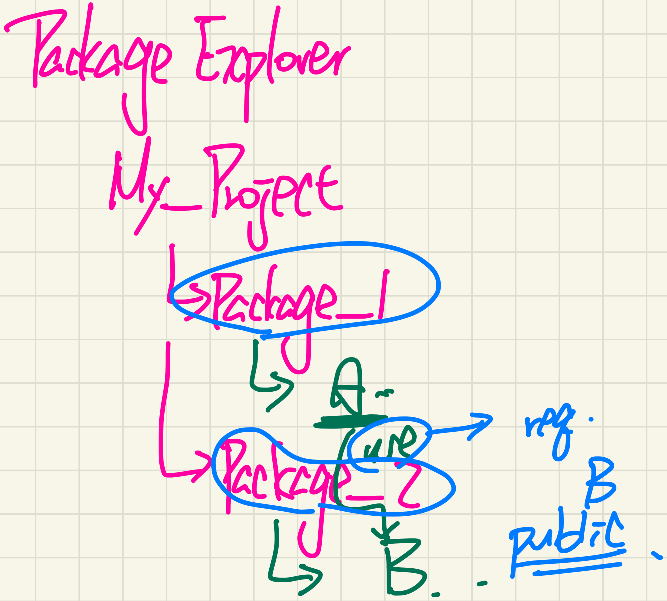
3. Interacting with "user" (keyboard & console) (console_apps).

Protected class

↳ not covered in fozz.

public class

↳ can be used across packages.



Q.

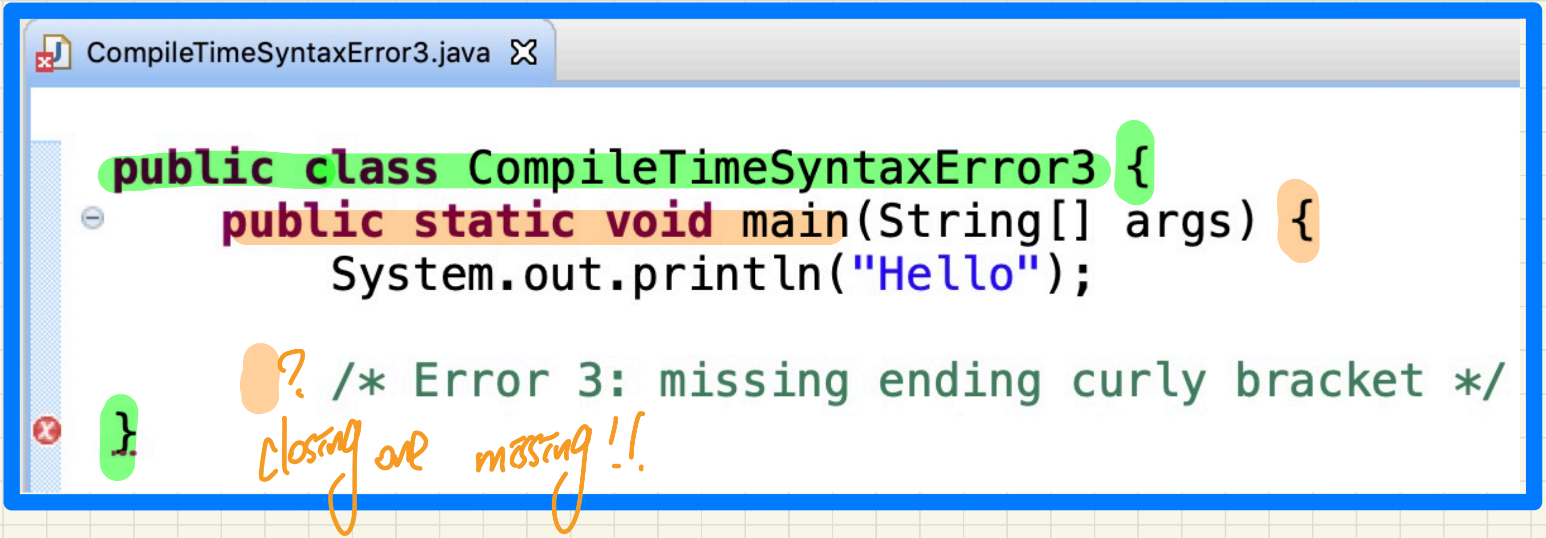
I'm a little bit confused about syntax error 3. For example, how do we know where to align the ending curly brackets? Thank you.

delimeter.
↓
separater

{] X

syntax error.

{ } ( ) [ ]



CompileTimeSyntaxError3.java

```java
public class CompileTimeSyntaxError3 {
    public static void main(String[] args) {
        System.out.println("Hello");

      ? /* Error 3: missing ending curly bracket */
}
```

closing one missing !!

Q.

Is an infinite loop considered terminating abnormally?

does not terminate.

```
int i = 1;
while (i > 0) {
    println(i);
    i++;
}
```

```
1
2
3
4
5
6
⋮
```

no ∵ infinite loops do not terminate by definition.

logical error causing your program fail to terminate set.

single value

set of allowable values

Q.

What is the difference between literals and data types ?

✓ ✓

1019.

Arman

constant value ✓

type of variable (int string)

application or usage of data type

var name

int i; // i initialized to default. 1 2 3 integer lit.

char 0.

'\0' 'a' 'b' ...

2.3 4.6 double lit.

'a' '#' '@' char. lit

"a" "#" "a@b" string lit.

data type

the set of values that i can store at runtime.

set int

-5, -4, -3, ... 0, 1, 2, 3 ...

int i = ② 23. ;

set of integer values.

data type

only integer value can be stored to i at runtime

In order for this assignment to be valid, must be a value in the int data type.

23 > 4

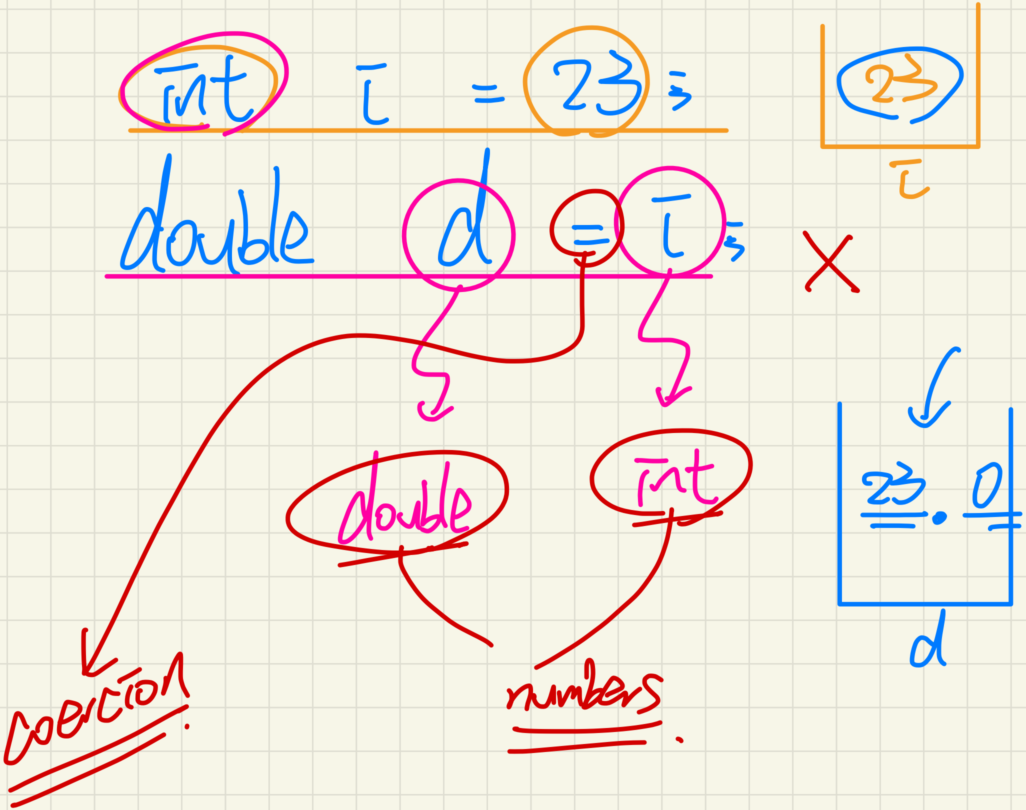
① 23 % 4

② j

j is also declared to be int.

boolean

int i = 23 > 4;



```
int i = 23;
double d = i;
```

Q.

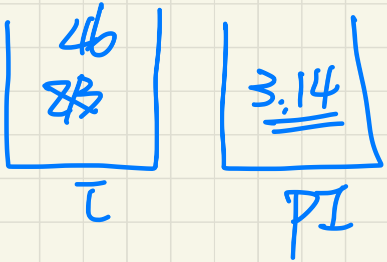
Are there any local and global variables in Java,
or are there simply just variables and named constants?

Two Dimensions

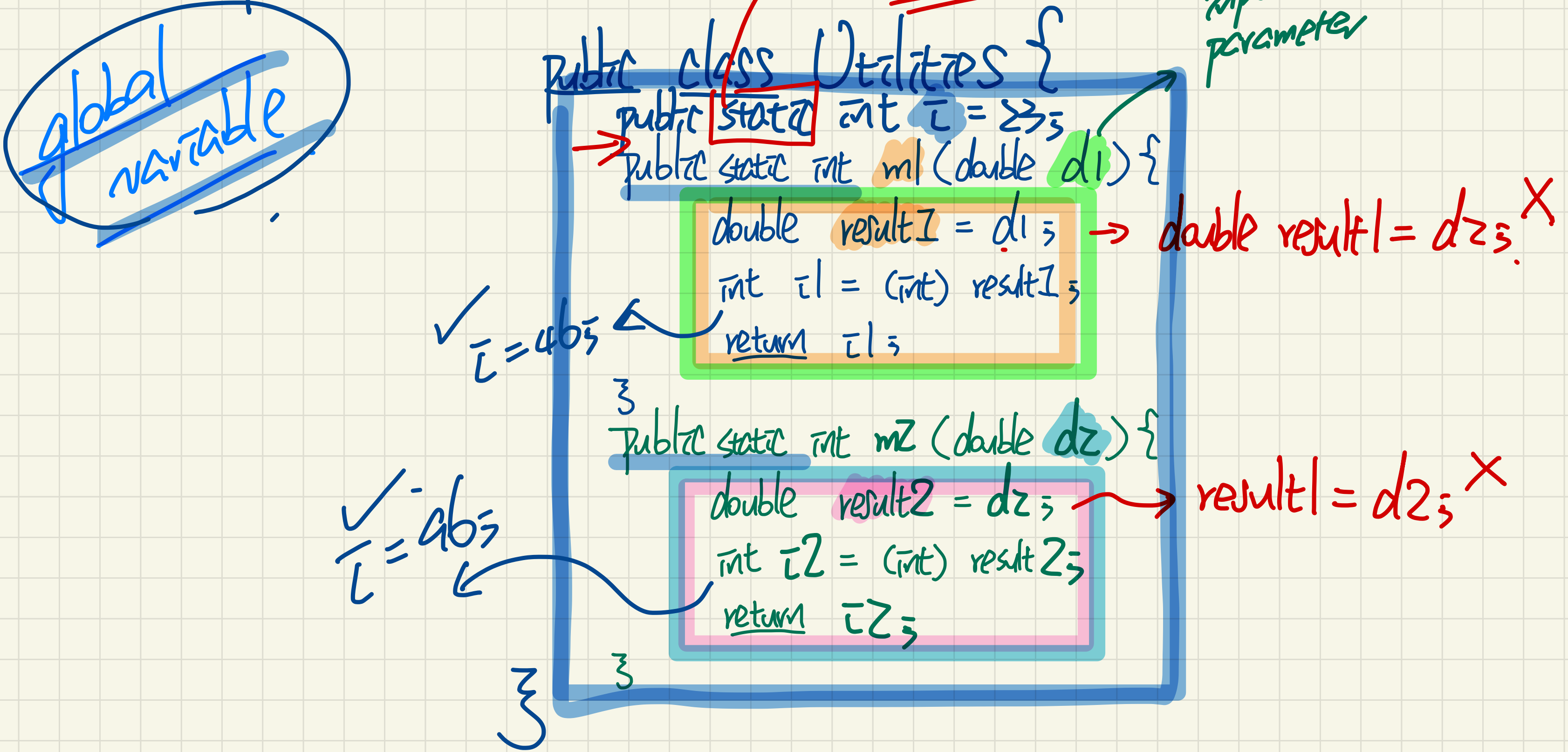
storage.

- variables vs. named constants
- scope (method vs. class)

how visible it is.



Scope of variables



global variable

```
public class Utilities {
  public static int i = 23;
  public static int m1(double d1) {
    double result1 = d1;
    int i1 = (int) result1;
    return i1;
  }
  public static int m2(double d2) {
    double result2 = d2;
    int i2 = (int) result2;
    return i2;
  }
}
```

public int j;

non-static.

input parameter

→ double result1 = d2; X

→ result1 = d2; X

✓ i = 46;

✓ i = 96;

① $-(\boxed{24/7})$ ≡ -3.

② $-24/7$ ≡ -3.

operand of − is (24/7)

operand of − is 24

$(24\ /\ 7)$

left operand

bin op.

right operand

operand?

No, unless it is used in the context of another operator.

Integer expression which can be used by a unary operator or (partly) by a bin. operator.