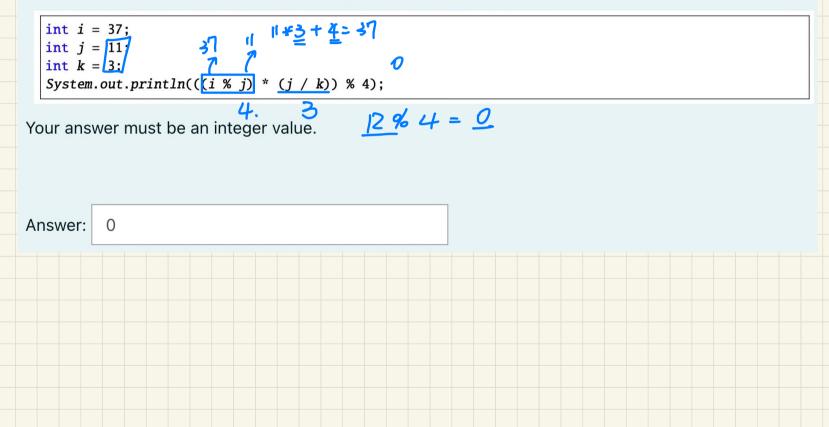# EECS1022 Programming for Mobile Computing (Winter 2021)

Q&A – Lectures W4

Tuesday, February 9

Written Test 1: Practice Questions (1)

What is the console output of the following lines of Java code?

```java
int i = 37;
int j = 11;
int k = 3;
System.out.println(((i % j) * (j / k)) % 4);
```

Handwritten annotations:

37   11

11 * 3 + 4 = 37

0

4.   3

12 % 4 = 0

Your answer must be an integer value.

Answer: 0

Written Test 1: Practice Questions (2)

Consider the following expressions. Which one(s) contain contain type error(s)?

a. `((double) 11 / 3) + " is what?"`
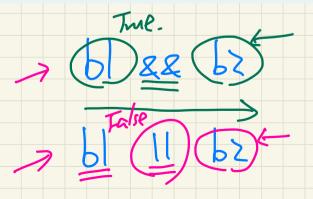
→ Concat.

b. `"I " + "Love " + "1022"` ✓ "I Lae 1022"

c. `((13 % 3) + "234") + 56 + ("(13 % 3) * 234")` ✓

Concat

d. `(13 % 3) + "234") / 56 + ((13 % 3) * 234)`

Int

String ✗

Written Test 1: Practice Questions (3)

The short circuit evaluation applies to both logical conjunction and logical disjunction. For the following descriptions, choose **all** that are correct.

- ☐ a. In evaluating b1 || b2 at runtime, b2 is only evaluated if b1 is evaluated to true.
- ☑ b. In evaluating b1 || b2 at runtime, b2 is not evaluated as long as b1 is evaluated to true.
- ☑ c. In evaluating b1 && b2 at runtime, b2 is only evaluated if b1 is evaluated to true.
- ☑ d. In evaluating b1 && b2 at runtime, b2 is not evaluated as long as b1 is evaluated to false.
- ☑ e. In evaluating b1 || b2 at runtime, b2 is only evaluated if b1 is evaluated to false.
- ☐ f. In evaluating b1 && b2 at runtime, b2 is not evaluated as long as b1 is evaluated to true.
- ☐ g. In evaluating b1 || b2 at runtime, b2 is not evaluated as long as b1 is evaluated to false.
- ☐ h. In evaluating b1 && b2 at runtime, b2 is only evaluated if b1 is evaluated to false.

Written Test 1: Practice Questions (4)

→ guarding division

Consider the following fragment of Java code (where you can assume that x is declared as an integer variable):

```java
if(x != 0 && 10 / x > 5) {
    System.out.println("Outcome 1");
}
else {
    System.out.println("Outcome 2");
}
```

When running the above Java code, which of the following values for variable x will generate the following console output:

```
Outcome 2
```

- ○ a. None of the answers is correct.
- ○ b. 0
- ○ c. 3
- ● d. All of the answers are correct.
- ○ e. 2

Written Test 1: Practice Questions (5)

→ guarding constraint misplaced

Consider the following fragment of Java code (where you can assume that x is declared as an integer variable):

```java
if(10 / x >= 5 && x != 0) {
  System.out.println("Outcome 1");
}
else {
  System.out.println("Outcome 2");
}
```

When running the above Java code, which of the following values for variable x will generate the following console output:

```
Outcome 2
```

- ○ a. All of the answers are correct.
- ○ b. 0
- ○ c. 1
- ● d. None of the answers is correct.
- ○ e. 2

Written Test 1: Practice Questions (6)

Consider the following loop:

```java
for(int i = -49; i < -50; ) {
  System.out.println("Outcome");
}
```

Handwritten annotations: "-A" above -49, "F" circled above i < -50

How many times will the stay condition be evaluated (to true or false)?

- a. None of the answers is correct.
- b. 101
- c. 99
- d. 100
- e. 98
- f. 0
- g. 97
- ● h. 1