

You only need to write your name and e-mail ID on the first page.

This exam is CLOSED text book, closed-notes, closed-calculator, closed-neighbor, etc. Questions are worth different amounts, so be sure to look over all the questions and plan your time accordingly. Please sign the honor pledge here:

Page 1	_____ / 3
Page 2	_____ / 17
Page 3	_____ / 25
Page 4	_____ / 20
Page 5	_____ / 15
Page 6	_____ / 20
Total	_____ / 100

Note: When an integer type is required use `int`, when a floating-point type is required use `double`. If we don't specify an aspect of the problem, you can choose it.

Note: If you are still writing on the exam after “pens down” is called – even if it is just to write your name – then you will receive a zero on this exam. No exceptions!

1. [3 points] What lab section are you in?

- | | |
|--|--|
| <input type="checkbox"/> CS 101-E | <input type="checkbox"/> CS 101-6 (lab 2:00–3:15 p.m. Thu) |
| <input type="checkbox"/> CS 101-2 (lab 8:00–9:15 a.m. Thu) | <input type="checkbox"/> CS 101-7 (lab 3:30–4:45 p.m. Thu) |
| <input type="checkbox"/> CS 101-3 (lab 9:30–10:45 a.m. Thu) | <input type="checkbox"/> CS 101-8 (lab 5:00–6:15 p.m. Thu) |
| <input type="checkbox"/> CS 101-4 (lab 11:00–12:15 p.m. Thu) | <input type="checkbox"/> CS 101-9 (lab 6:30–7:45 p.m. Thu) |
| <input type="checkbox"/> CS 101-5 (lab 12:30–1:45 p.m. Thu) | |

2. [9 points] Consider the following statements in the Java language:

```
Scanner stdin = new Scanner(System.in);
double PI = 3.14159;
final double centimetersPerInch = 2.54;
String input = new String("Wahoos!");
int meaningOfLife = 42;
Rectangle square = new Rectangle(2,2);
```

Answer the following as **true** or **false** (don't answer T or F – you need to write the **FULL** word to get credit).

- a. PI is a constant Answer: _____
- b. The word *stdin* is a Java reserved word. Answer: _____
- c. *centimetersPerInch* is an invalid identifier name. Answer: _____
- d. The word *Final* can be the name of a variable (notice the capitalization) Answer: _____
- e. String is an object Answer: _____
- f. *meaningOfLife* is a variable Answer: _____
- g. double is a class Answer: _____
- h. square is a variable Answer: _____
- i. Rectangle is a type Answer: _____

3. [8 points] Draw a memory diagram showing what memory looks like after the following four statements:

```
String s1;
String s2 = null;
String s3 = "";
String s4 = "CS101";
```

