EXAM 1, BMED 3520

February 18, 2016

Name:

A2

CS 1331 Exam 1 A

Fall 2015
2015-10-09

Name (print clearly): _____

Signature: _____

GT account username (gtg, gth, msmith3, etc): _____

- Signing signifies you are aware of and in accordance with the **Academic Honor Code of Georgia Tech**.
- Calculators and cell phones are NOT allowed.
- This is an object-oriented programming test. Java is the required language. Java is case-sensitive. DO NOT WRITE IN ALL CAPS. A Java program in all caps will not compile. Good variable names and style are required. Comments are not required.

Question	Points per Page	Points Lost	Points Earned	Graded By
Page 1	20	- 2	= 18	DO
Page 2	10	- 1	= 9	BJ
Page 3	10	- 0	= 10	YP
Page 4	10	- 2	= 8	ATM
Page 5	10	- 0	= 10	XX
Page 6	20	- 0	= 20	ATM
Page 7	20	- 8	= 12	JR
TOTAL	100	- 13	= 87	JL

2. **Expression Evaluation**

For each expression below, write the value and then the Java data type of the evaluated legal expression in the space provided. Be exact. The type you give must be the **exact spelling of a Java primitive type including uppercase vs lowercase as it would appear in your program.**

Expression: `13 % 3`

[1] (a) Calculated value: 1

[1] (b) Java primitive type: int

Expression: `64 + 16 * 4` 64 = 128

[1] (c) Calculated value: 128

[1] (d) Java primitive type: int

Expression: `5.5 + 3.0f - 4.5f`

[1] (e) Calculated value: 4.0

[1] (f) Java primitive type: ~~float~~ Double.

Expression: `false && true`

[1] (g) Calculated value: false

[1] (h) Java primitive type: boolean

Expression: `(1 == 1) || ( 1 == 2)`

[1] (i) Calculated value: true

[1] (j) Java primitive type: boolean

 Points available: 10 - points lost: 1 = points earned: 9. Graded by: BJ

4. **Multiple Choice** Circle the letter of the correct choice.

Given the following code:

```
public class Card {

   private String rank;
   private String suit;

   public String toString() {
      return rank + " of " + suit;
   }

   public void setRank(String rank) {
      rank = rank;
   }

   public void setSuit(String suit) {
      suit = suit;
   }

   public static void main(String[] args) {
       Card c1 = new Card();
       c1.setRank("ace");
       c1.setRank("base");
       Card c2 = new Card();
       c2.rank = "ace";
       c2.suit = "base";
       Card c3 = c2;
    }
}
```

[2] (a) At the end of the main method, what would be printed by `System.out.println(c1)`?

(A.) null of null
B. ace of base
C. Card@d34dbe3f (or something like it)

[2] (b) At the end of the main method, what would be printed by `System.out.println(c2)`?

A. null of null
(B.) ace of base
C. Card@d34dbe3f (or something like it)

[2] (c) At the end of the main method, what would be printed by `System.out.println(c3)`?

A. null of null
(B.) ace of base
C. Card@d34dbe3f (or something like it)

[2] (d) At the end of the main method, what would be printed by `System.out.println(c1 == c2)`?

(A.) true
(B.) false
C. Card@d34dbe3f (or something like it)

[2] (e) At the end of the main method, what would be printed by `System.out.println(c2 == c3)`?

(A.) true
B. false
C. Card@d34dbe3f (or something like it)

 Points available: 10 - points lost: 2 = points earned: 8. Graded by: ATM

6. Short Answer

[4] (a) Assume you have a Java class named `Foo` that you want to be able to run from the command line. Write the header for the method you need to define in `Foo` to make it executable from the command line.

public static void main (String[] args)

[4] (b) Assume you are at the command line in the directory of the file that contains the definition for a Java class named `Foo`. Write the command that you would execute on the command line to compile this file.

javac Foo.java

[4] (c) Write the command that will execute the `Foo` class you compiled above.

java Foo

[4] (d) Assume `elevatorToFloor(int)` is defined.

```
for (int i = 0; i < 20; i++) {
    // I'm not super stitious, but I'm a little stitious
    if (i == 13) {
        i = 12;
    }
    elevatorToFloor(i);
}
```

What's wrong with the code above? Complete sentence not required. You can answer in as few as two words. Answer only on this line:

Infinite loop

[4] (e) Assume you have the following start of a Student class and Student constructor. Finish the constructor so that it initializes the instance variables with the correponsding values of the constructor parameters. Do not change the code that is given.

```
public class Student {
    private String name;
    private String email;
    public Student(String name, String email) {
        // Your code goes here
        this.name = name;
        this.email = email;

    }
}
```

 Points available: 20 - points lost: 0 = points earned: 20. Graded by: ATM