CSC 20 – Exam 2 – Fall 2018

1) (7 Pts) Given the following class definitions, write on each dashed line "compile error" or "runtime error" if the statement next to the line results in an error, or what is output when the statement executes. If it outputs more than one line, use a slash to indicate a line break (eg, "Sip 1/Drink 3").

```
public class Fo {                                public class Fee extends Fo {
    public void method2() {                          public void method1() {
        System.out.println("Fo 2");                      System.out.println("Fee 1");
        method3();                                       super.method3();
    }                                                }

    public void method3() {                          public void method3() {
        System.out.println("Fo 3");                      System.out.println("Fee 3");
    }                                                }
}                                                }
public class Fum extends Fo {
    public void method3() {                      public class Fie extends Fum {
        System.out.println("Fum 3");                 public void method1() {
    }                                                    System.out.println("Fie 1");
}                                                    }

                                                     public void method3() {
                                                         System.out.println("Fie 3");
                                                         super.method3();
                                                     }
                                                 }
```

```
Fum var1 = new Fie();
Object var2 = new Fum();
Fo var3 = new Fee();

var1.method2();              _____

var2.method2();              _____

var3.method2();              _____

var1.method3();              _____

var2.method3();              _____

var3.method3();              _____

((Fee) var3).method1();      _____

((Fie) var3).method1();      _____
```

2) (6 Pts) On the back of this page, write a Critter named Mouse. A mouse picks a random number 1–5, goes that many steps east, picks another random number 1–5, rests that many time units, and then repeats the process. A mouse should be a black "m", never fight, and never eat. Make a single Random object that is shared by all Mouse objects. Do not write any JavaDoc.

3) (7 Pts) Here is a main program that doesn't work because the class it is using hasn't been written. On the back of this page write a complete definition for the missing class that will allow the program to run correctly. Do not write any JavaDoc.

```
    public class Main {
        public static void main(String[] args) {
            Account acc = new Account();  // Open an account with initial balance 0
            acc.deposit(100);             // Deposit 100 units to the balance
            acc.withdraw(40);             // Deduct 40 units if possible otherwise throw IllegalArgumentException
            System.out.println(acc);      // Prints the number of units in the account: "60"
        }
    }
```