

Name: _____

CS2113 Quiz 3

30 minutes. TAs will NOT be able to assist you with explaining the code below (this is part of the assessment).

Grading rubric: 40 points for UML diagram and 60 points for finding and explaining the bugs.

1. Draw a UML diagram like we did for Lab 5 for the code below. You must have all classes, fields, methods, visibilities, types, return types, and directional associations correctly drawn for full credit.

```
public class Bird{
    private int age;
    protected String science = "Aves";

    public Bird(int age){
        this.age = age;
        System.out.println("1");
    }

    public String foo(){
        System.out.println("2");
        return age + " " + science;
    }
}
```

```
public class Raptor extends Bird{
    public String food;

    public Raptor(){
        super(33);
        food = "mice";
        science = "Raptor";
        System.out.println("3");
    }

    public void bar(){
        System.out.println("bar");
    }
}
```

```
public class Hawk extends Raptor{
    private String color;

    public Hawk(int age){
        super();
        color = "brown";
        System.out.println("4");
    }
}
```

2. CIRCLE all the lines of code below that would NOT COMPILE, and give the reason why.
Note: you may assume all the code in problem 1 is available to the driver below, and that all those three classes above compile together (i.e. the only “mistakes” are in the code below).

No memory trace is required for the code below; the question is testing your knowledge of compilation, not debugging.

```
public class Driver{

    public static void main(String[] args){

        Bird b = new Bird(12);
        Raptor r = new Raptor();
        Hawk h = new Hawk(3);

        b.age = 3;
        b.science = "Math";
        b.food = "seed";

        r.age = 3;
        r.science = "Math";
        r.food = "seed";

        h.age = 3;
        h.science = "Math";
        h.food = "seed";
        h.color = "pink";

        b.foo();
        r.foo();
        h.foo();

        b.bar();
        r.bar();
        h.bar();

    }
}
```

SCRATCH