CS62: Fall 2026 | Quiz #2

Name: _____ *Score:* _____

```
public class Pet {
    private String name;
    private String type;

    public Pet(String name, String type){
         this.name = name;
         this.type = type;
    }

    public String toString() {
        return name + " is a good " + type;
    }
}

public class Dog extends Pet {
    private String loves;

    public Dog(String name, String loves){
        super(name, "dog");
        this.loves = loves;
    }

    public String toString(){
        return super.toString() + " and loves " + loves;
    }

    public void bark(){
         System.out.println("roof!");

    }
}

public class Cat extends Pet {

    private boolean isLongHair = true;

    public Cat(String name){
        super(name, "cat");

    }

    public boolean hasLongHair(){
        return isLongHair;
    }

    public void cutHair(){
        isLongHair = false;
    }

}
```

1. Assuming the three classes above are in their own, appropriately name, files, for each set of statements below, *state whether they are legal or if an error would occur*.

   a. `Pet p = new Cat(“Leo”);`

   b. `Cat c = new Cat(“Lucy”);`

   c. `Dog d = new Pet(“Charlie”, “dog”);`

   d. `Cat c = new Dog(“Charlie”, “chewing”);`

   e.
   ```
   Pet p = new Dog(“Charlie”, “chewing”);
   p.bark();
   ```

2. What would be printed out if we ran the following code:

```
Dog d = new Dog(“Roo”, “balls”);
Cat c = new Cat(“Leo”);

System.out.println(d);
System.out.println(c);
```