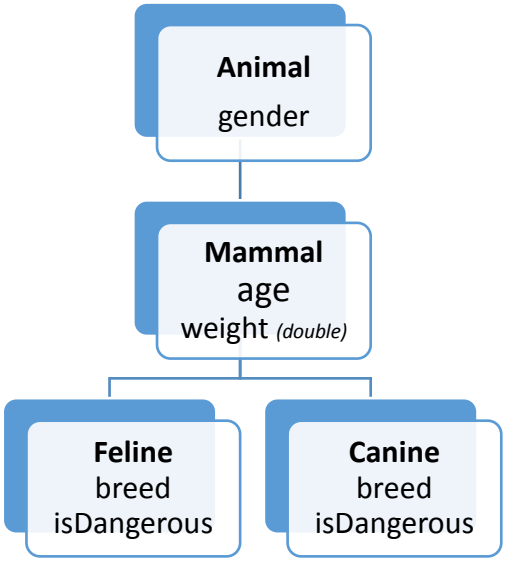
***Directions**: Within your project or package named Java-exercises (create it if it does not already exist). Within that, create a class file for each class and test it using a `main()` method. Sample Java main method follows:*

```
Public static void main(String[] args) {
}
```

The classes you create in this exercise



Class names are bold, instance variables are the not bold

Look here **for help on creating sub classes whose superclass have variables**

Animal Class

1. Define a class named `Animal`. This class should have one attribute *(instance variable)* and one method:
    a. `gender`
    b. A `getGender()` method that returns the value of `gender`.
2. Create a constructor for the Animal class that:
    a. Accepts the value `gender` as a parameter and sets the gender attribute.
    b. Prints the value of the `gender` attribute using the `getGender()` method.
3. Create an instance of the `Animal` class passing `gender` value into it.

Continued on Reverse

Mammal Class *(Subclass of Animal)*

4. Define a class named `Mammal`. This class must be a subclass of the `Animal` class.
    a. Attributes:
        i. age
        ii. weight
    b. Methods:
        i. `getAge()`
        ii. `setAge()`
        iii. `getWeight()`
        iv. `setWeight()`
        v. `move()` - Just print "*Mammal Moves*" in this method.
        vi. `makeNoise()` - Just print "*Mammal Makes a Noise*" in this method.
5. Create a constructor for the `Mammal` class that:
    a. Accepts the values `gender, age,` and `weight` as parameters and sets the appropriate attributes.
    b. Prints the values of `gender, age,` and `weight` using the appropriate "get" methods.

Feline class *(Subclass of Mammal)*

6. Define a class named `Feline`. This class must be a subclass of the `Mammal` class.
    a. Attributes:
        i. breed
        ii. isDangerous
    b. Methods:
        i. Getters and setters for all the attributes above.
7. Create a constructor for the `Feline` class that:
    a. Accepts the values `gender, age, weight, breed, and isDangerous` as parameters and sets the appropriate attributes.
    b. Prints the values of `age, breed, and isDangerous,` using the appropriate "get" methods.
8. Create the `makeNoise()` method that:
    a. Prints "Feline says purr"
    b. Calls the `makeNoise()` method of the superclass.

Canine Class *(Subclass of Mammal)*

9. Define a class named `Canine`. This class must be a subclass of the `Mammal` class.
    a. Attributes:
        i. breed
        ii. isDangerous

   b. Methods:
      i. Getters and setters for all the attributes above.
10. Create a constructor for the `Canine` class that:
   a. Accepts the values `gender, age, weight, breed, and isDangerous` as parameters and sets the appropriate attributes.
   b. Prints the values of `age, breed, and isDangerous,` using the appropriate "get" methods.
11. Create the `makeNoise()` method that:
   a. Prints "Canine says howl"
   b. Calls the `makeNoise()` method of the superclass.

Test your Classes

It is a good idea to test as you go, but now we want to test the entire set of classes.

1. Create an instance of `Animal` class using "female" as the gender
2. Create an instance of the `Mammal` class that is 10 years old and weighs 110 pounds.
   a. Set the value of the gender attribute using the `setGender()` method.
   b. Print the gender of your mammal using the `getGender()` method.
3. Create an instance of the `Feline` class that is two years old, female Tiger, is dangerous and weighs 970.5 lbs.
   a. Set the value of the gender attribute using the `setGender()` method.
   b. Print the gender of your mammal using the `getGender()` method.
   c. Set the values of `isDangerous` and the `weight` using the appropriate setter methods.
   d. Print the value of `isDangerous` and the `weight` using the appropriate getter methods.
   e. Print the values of the `gender, age, type, weight,` and `isDangerous` attributes using the appropriate getter methods.
4. Create an instance of the `Canine` class that is two years old, male Labrador, that weighs 48.7 lbs, and is not dangerous.
   a. Set the value of the gender attribute using the `setGender()` method.
   b. Print the gender of your mammal using the `getGender()` method.
   c. Set the values of `isDangerous` and the `weight` using the appropriate setter methods.
   d. Print the value of `isDangerous` and the `weight` using the appropriate getter methods.
5. Print the values of the `age`, `breed` and `isDangerous` attributes using the appropriate getter methods.
6. Call the `makeNoise()` and `move()` methods for the following object instances you created above:
   a. `Mammal`

b. Feline
c. Canine