Part 1:

Write the entire Animal class. Animals need…

* a field for their weight (a double) and their size (a String: “small”, “medium”, or “large)
* A two argument constructor that sets the fields
* A getter method to retrieve the size
* A setter method to set the weight
* (you only need to code the listed functionality)

Part 2:

Write the entire Cat class that is a subclass of Animal. Cats need…

* One new field for the number of mice they have caught
* A two argument constructor that sets their weight and size. The amount of mice caught should start at 0.
* A getter method for the number of mice caught.
* A setter method that increases the number of mice the cat has caught by a given amount.
  + For example - if the number of mice caught is 5 and the call catchMice(10) is called the number of mice caught should be set to 15.
* A toString() method that will return a String containing the size of the cat and the number of mice it has caught.

Part 3:

* Create a method called simulateHunt. It will accept one parameter, an array of Cat objects, and will have each Cat in the array catch a random number of mice between 2 and 6.

Extra:

* Practice writing some code that would create the array of Cats used in part 3. Create an array, create some cats, and add them to the array.

public class Animal {

private double weight;

private String size;

public Animal(double aWeight, String aSize) {

weight = aWeight;

size = aSize();

}

public String getSize() {

return size;

}

public void setWeight(int newWeight) {

weight = newWeight;

}

}

public class Cat extends Animal {

private int miceCaught;

public Cat(double aWeight, double aSize) {

super(aWeight, aSize);

miceCaught = 0;

}

public int getMice() {

return miceCaught;

}

public void catchMice(int mice) {

miceCaught += mice;

}

public String() toString() {

return "The " + getSize() + " cat has caught this many mice: " + miceCaught;

}

}

public void simulateHunt(Cat[] cats) {

for (Cat c : cats) {

c.catchMice((int)(Math.random() \* 4) + 2);

}

}