Software Design I (CS 120)
Quiz 09: Tuesday, 06 December 2016

NAME _____

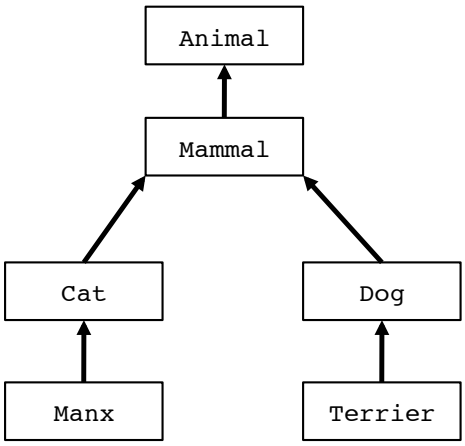
(1) (5 pts.) Suppose we have a parent class, with a method as follows that returns the maximum value of its two inputs:

```
public int getMax( int x, int y )
{
   if ( x > y )
      return x;
   else
      return y;
}
```

Now, suppose you are writing a child class of the one that contains the above method. You want to over-ride that method so that the new version returns the maximum **absolute values** of its input. For example, on inputs `(-3, -4)`, the method would return `4`, since

$$|-4| = 4 > 3 = |-3|$$

Write this new method below. **For full points:** your method should use the `super` keyword, and make use of the parent's version of the method, along with its own code.



(2) (**5 pts.**) For each class in the above hierarchy, list *all other classes* to which it **conforms**. For example, if `Cat` conforms to `Manx`, you would write `Manx` next to `Cat`. Note that if a class conforms to no others in the hierarchy shown, you can simply write `None`.

(a) `Animal` _____

(b) `Mammal` _____

(c) `Cat` _____

(d) `Manx` _____

(e) `Terrier` _____

(3) (**2 pts.**) Suppose we write a method as follows (the actual code in the method is unimportant, but you can assume it runs properly).

```
public void feed( Mammal m ) { ... }
```

Now, suppose we write the following lines of code in another part of the class containing the above method. If we do so, then **only one** of the method calls (on the last two lines of code) will properly compile. (Assume all other code shown is correct.)

Circle the method call that will compile properly.

```
Animal a = new Animal();
Cat c = new Cat();

feed( a );

feed( c );
```