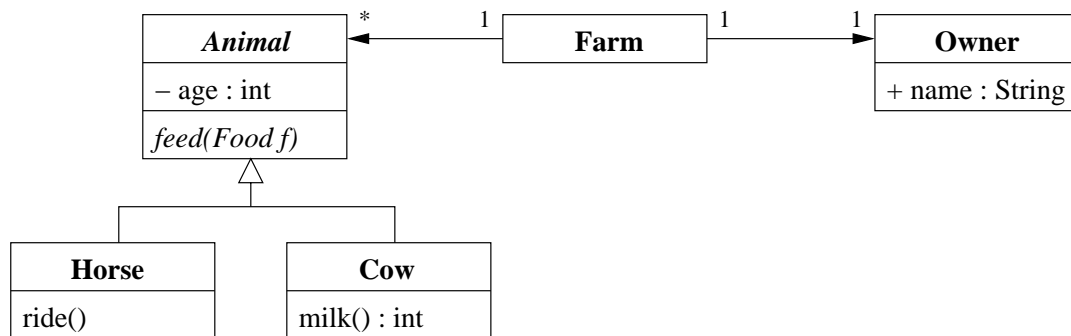

Software Engineering
<http://proglang.informatik.uni-freiburg.de/teaching/swt/2005/>

Exercise Sheet 12

Deadline: July 12th, 2005

Exercise 1 – Java Stubs: (10 points)

Implement Java Stubs according to the following class diagram. In implementing the classes don't use any public variables. Use getter and setter methods instead.

**Solution:**

```

class Farm {
    private Owner    owner;
    private ArrayList animals;

    public Owner    getOwner() {
        return owner;
    }
    public void    setOwner(Owner o) {
        owner = o;
    }
    public Iterator getAnimals() {
        return animals.iterator();
    }
    public void    addAnimal(Animal a) {
        animals.add(a);
    }
    public void    removeAnimal(Animal a) {
        animals.remove(a);
    }
}

class Owner {

```

```
private String name;

public String getName() {
    return name;
}
public void setName(String n) {
    name = n;
}
}

abstract class Animal {
    private int age;

    public abstract void feed(Food f);
}

class Horse extends Animal {
    public void feed(Food f) {
        [...]
    }
    public void ride() {
        [...]
    }
}

class Cow extends Animal {
    public void feed(Food f) {
        [...]
    }
    public int milk() {
        [...]
    }
}
```