

## 第 7 次平时作业

```
package work7.package1;

/* 接口类 Animal*/
public interface Animal {

    /* 为了简化操作，只设置了一个方法*/
    public abstract void showType();

}
```

```
package work7.package1;

/* 基类 Pet*/
public class Pet {

    /* 类属性，全部设置为私有，子类只能通过公有方法访问*/
    private String name;
    private int age;
    private String sex;

    /* 全参构造*/
    public Pet(String name, int age, String sex) {
        this.name = name;
        this.age = age;
        this.sex = sex;
    }

    /* 公有方法抓取 name 属性*/
    public String getName() {
        return this.name;
    }

    /* 公有方法获得 age 属性*/
    public int getAge() {
        return this.age;
    }

    /* 公有方法抓取 sex 属性*/
}
```

```

    public String getSex() {
        return this.sex;
    }

    /* 打印信息*/
    public void printInfo() {
        System.out.println("this is a pet, and its name:"+this.name+"
age: "+this.age+" sex: "+this.sex);
    }
}

```

```

package work7.package2;

import work7.package1.Animal;

/* 通过 import package1, 得到 Animal 接口的访问权限
* Dog 类实现 Animal 接口 */
public class Dog implements Animal {

    /* 类属性*/
    String name;
    int age;

    public Dog() {

    }

    /* 构造*/
    public Dog(String name, int age) {
        this.name = name;
        this.age = age;
    }

    /* 实现接口方法*/
    @Override
    public void showType() {
        System.out.println("this is a dog, and its name is
"+this.name+" age: "+this.age);
    }
}

```

```

package work7.package2;

```

```

import work7.package1.Pet;

/* import package1 ,访问 Pet 父类
 * 继承 Pet 类*/
public class Cat extends Pet {

    /* 增加属性 type*/
    private String type;

    /* 直接调用基类构造方法*/
    public Cat(String name, int age, String sex) {
        super(name, age, sex);
    }

    /* 设置特有属性 type*/
    public void setType() {
        this.type = "cat";
    }

    /* 重写基类方法，打印信息*/
    @Override
    public void printInfo() {
        System.out.print("this is a "+this.type);
        System.out.println(". and its name: "+this.getName()+" age:
"+this.getAge()+" sex: "+this.getSex());
    }
}

```

```

package work7.package3;

import work7.package1.Pet;
import work7.package2.Cat;
import work7.package2.Dog;

/* 测试类*/
public class Test {

    public static void main(String[] args) {
        /* 实例化不同类的对象，检验方法属性是否有效*/
        Dog dog = new Dog("qiuqiu",2);
        dog.showType();

        Pet pet = new Pet("blank",3,"mal");
    }
}

```

```
pet.printInfo();

Cat cat = new Cat("miaomiao",1,"femal");
cat.setType();
cat.printInfo();
}
}
```