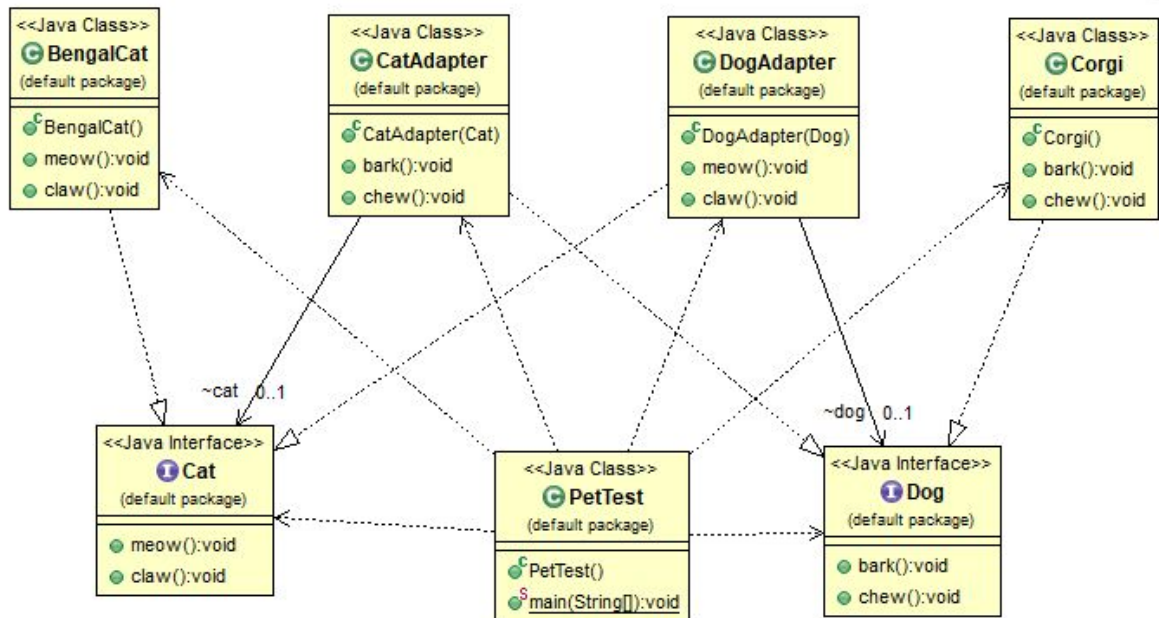


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UML Diagram:



Dog Interface Class and 1 implement:

```
public interface Dog {  
    public void bark();  
    public void chew();  
}
```

```
public class Corgi implements Dog{  
    public void bark() {  
        System.out.println("Corgi needs attention!");  
    }  
    public void chew() {  
        System.out.println("Corgi wants to play!");  
    }  
}
```

Cat interface and 1 implement:

```
public interface Cat {  
    public void meow();  
    public void claw();  
}
```

```
public class BengalCat implements Cat{  
    public void meow() {  
        System.out.println("Bengal cat wants to talk!");  
    }  
    public void claw() {  
        System.out.println("Bengal cat sharpening claws!");  
    }  
}
```

Dog Adapter Class:

```
public class DogAdapter implements Cat {  
  
    Dog dog;
```

```
        public DogAdapter(Dog dog) {
            this.dog = dog;
        }

        public void meow() {
            dog.bark();
        }

        public void claw() {
            dog.chew();
        }
    }
}
```

Cat Adapter Class:

```
public class CatAdapter implements Dog {

    Cat cat;

    public CatAdapter(Cat cat) {
        this.cat = cat;
    }

    public void bark() {
        cat.meow();
    }

    public void chew() {
        cat.claw();
    }
}
```

Test and Compile PetTest:

```
public class PetTest {
    public static void main(String[] args) {
        Corgi corgi = new Corgi();
        BengalCat bengalCat = new BengalCat();

        Dog catAdapter = new CatAdapter(bengalCat);
        Cat dogAdapter = new DogAdapter(corgi);
    }
}
```

```
System.out.println("Corgi:");  
corgi.bark();  
corgi.chew();
```

```
System.out.println("Bengal Cat: ");  
bengalCat.meow();  
bengalCat.claw();
```

```
System.out.println("Cat Adapter(Corgi):");  
catAdapter.bark();  
catAdapter.chew();
```

```
System.out.println("Dog Adapter(Bengal Cat):");  
dogAdapter.meow();  
dogAdapter.claw();  
}  
}
```

Working Code:

The screenshot displays the Eclipse IDE interface. The Package Explorer on the left shows the project structure: 'Object-Oriented Design' > 'Assnment7' > 'src' > 'PetTest.java'. The main editor window shows the code for 'PetTest.java'.

```
1 public class PetTest {
2
3
4     public static void main(String[] args) {
5         Corgi corgi = new Corgi();
6         BengalCat bengalCat = new BengalCat();
7
8         Dog catAdapter = new CatAdapter(bengalCat);
9         Cat dogAdapter = new DogAdapter(corgi);
10
11         System.out.println("Corgi:");
12         corgi.bark();
13         corgi.chew();
14         System.out.println("=====");
15
16         System.out.println("Bengal Cat: ");
17         bengalCat.meow();
18         bengalCat.claw();
19         System.out.println("=====");
20
21         System.out.println("Cat Adapter(Corgi):");
22         catAdapter.bark();
23         catAdapter.chew();
24     }
25 }
```

The Console window at the bottom shows the output of the program:

```
<terminated> PetTest [Java Application] D:\Java\bin\javaw.exe (Sep 30, 2020, 2:31:48 AM - 2:31:55 AM)
Corgi:
Corgi needs attention!
Corgi wants to play!
=====
Bengal Cat:
Bengal cat wants to talk!
Bengal cat sharpening claws!
=====
Cat Adapter(Corgi):
Bengal cat wants to talk!
Bengal cat sharpening claws!
```

