

JavaScript

// "is a" relationship

```
class Animal {  
  constructor(name) {  
    this.name = name;  
  }  
  
  speak() {  
    console.log(`${this.name} makes a sound`);  
  }  
}
```

class Dog extends Animal {

```
  constructor(name, breed) {  
    super(name);  
    this.breed = breed;  
  }
```

```
  bark() {  
    console.log(`${this.name} barks`);  
  }  
}
```

// "has a" relationship

```
class Person {  
  constructor(name) {  
    this.name = name;  
    this.pet = null;  
  }
```

```
  adoptPet(pet) {
```

```
    this.pet = pet;
}
```

```
introduce() {
    console.log(`Hi, I'm ${this.name}.`);
    if (this.pet) {
        console.log(`I have a pet named ${this.pet.name}.`);
    }
}
}
```

```
let dog = new Dog("Buddy", "Golden Retriever");
let person = new Person("John");
```

```
person.adoptPet(dog);
```

```
person.introduce();
person.pet.bark();
```

Java

```
// "is a" relationship
```

```
class Animal {
    protected String name;

    public Animal(String name) {
        this.name = name;
    }

    public void speak() {
        System.out.println(name + " makes a sound");
    }
}
```

```
}
```

```
class Dog extends Animal {
```

```
    private String breed;
```

```
    public Dog(String name, String breed) {
```

```
        super(name);
```

```
        this.breed = breed;
```

```
    }
```

```
    public void bark() {
```

```
        System.out.println(name + " barks");
```

```
    }
```

```
}
```

```
// "has a" relationship
```

```
class Person {
```

```
    private String name;
```

```
    private Animal pet;
```

```
    public Person(String name) {
```

```
        this.name = name;
```

```
    }
```

```
    public void adoptPet(Animal pet) {
```

```
        this.pet = pet;
```

```
    }
```

```
    public void introduce() {
```

```
        System.out.println("Hi, I'm " + name + ".");
```

```
        if (pet != null) {
```

```
        System.out.println("I have a pet named " + pet.name + ".");
    }
}
}
```

```
public class Main {
    public static void main(String[] args) {
        Dog dog = new Dog("Buddy", "Golden Retriever");
        Person person = new Person("John");

        person.adoptPet(dog);

        person.introduce();
        ((Dog) person.pet).bark();
    }
}
```

In the above code :-

- **Dog is a animal**
- **Person has a pet named dog**
- **Person uses animal speak property to identify the animal**