

Object Oriented Assignment

Define an abstract class Animal

Define a subclass Dog

Define a subclass Cat

According to the following analysis

- Dogs live on land (a terrestrial animal) and are both mammalian and carnivorous. Dogs usually greet people by "wagging their tails". When they feel comfortable being touched, they will bark loudly. When they are frightened and upset, they will make a "whooping" sound;
- Cats also live on land (a terrestrial animal) and are both mammalian and carnivorous. Cats usually make a "meow~" sound when they greet people, when they are in a good mood, they make a "purr, purr" sound, and when they are frightened, they make a "hiss" sound;
- The frog is an amphibian (a terrestrial animal), neither mammalian nor carnivorous, and belongs to oviparous. When the frog is in a good mood, it will sing "quack quack quack" on the shore, and when frightened, it will "plop into the water";

Find out properties and methods.

prompt:

1. First, you need to extract the object in the problem description
2. Analyze the characteristics of each object
3. Analyze the actions of each object

4. From the characteristics of these objects, extract the attributes and methods of the class
5. Analyze the relationship between the classes and draw the class structure diagram

Basic methods of abstract classes and objects:

1. Object-noun

For example: in the sentence "kitten meows", we can identify an object: cat;

1. Method-verb

For example, "want to call" and "meow to call" are all actions sent by the subject;

1. Attributes or characteristics-adjectives

For example: "breastfeeding", "carnivorous", "oviparous", etc.;

1. "Yes" relationship-inheritance

For example, a dog is a kind of animal, which means: "dog" category inherits from "animal" category;

1. "Have" relationship-the attributes of the class

For example, animals have emotions, which means: "emotion" is an attribute of "animals";

The class diagram is as follows

