cBTutorial 13: Inheritance

This tutorial should be completed before the next lecture.

Task 1: Draw UML class diagrams 

You are required to draw UML class diagrams for classes that will satisfy the problem specification given below.

Problem specification

A publishing house prints and distributes two types of publication: books and journals. Each book has a title, an author, an edition number, and an ISBN. Each journal has a title, a volume number, an issue number, and an ISBN.

A programmer is to be allocated the task of writing an application in C#, which is an Object-oriented programming language. Your task is to design for the programmer the classes needed for this problem specification.

Step 1: Draw UML class diagrams

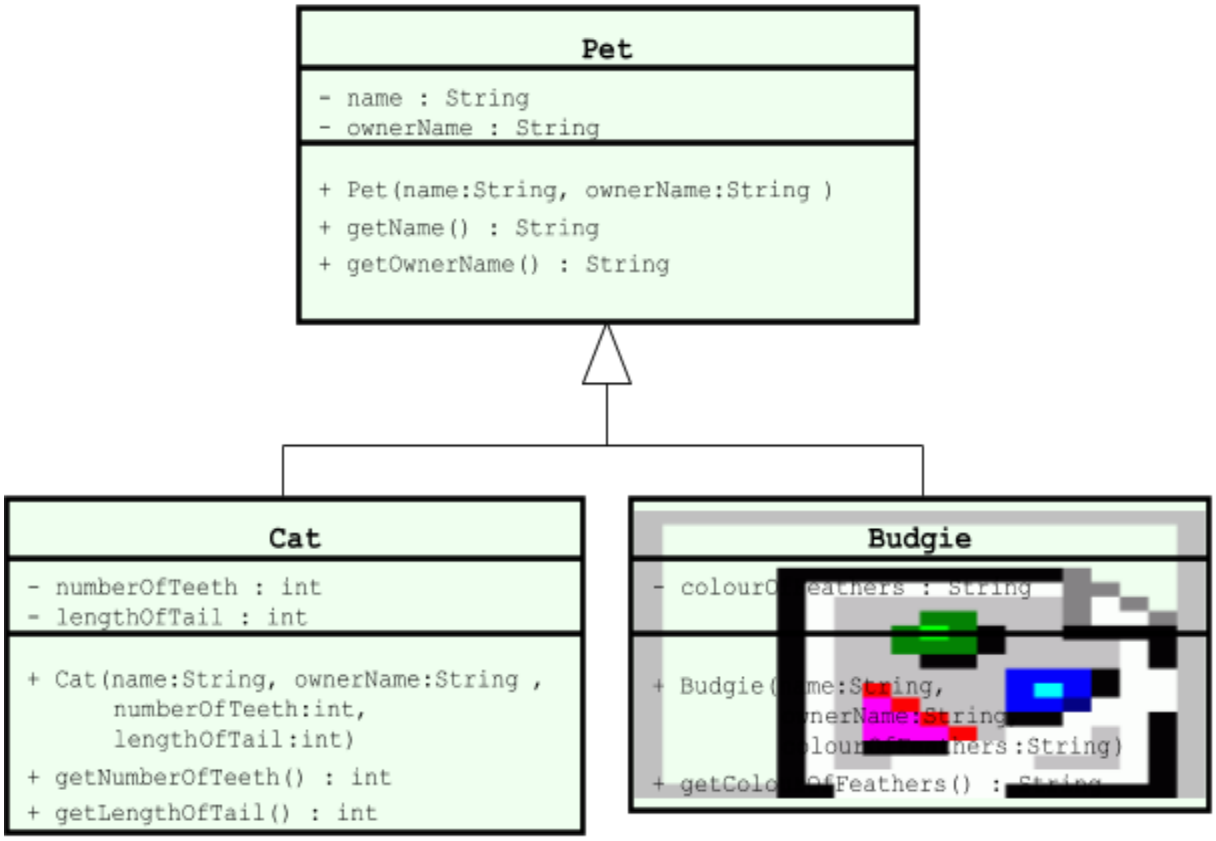
Draw class diagrams for all the classes described above, and show the inheritance relationships between them.

Portfolio requirements:

- A digital copy of your UML class diagrams from step 1

Task 2: Convert UML class diagrams to Java code

You are required to convert the UML class diagrams shown below into Java code.



Step 1: Create a NetBeans project

Create a new project called `PetShop` in a folder called `T13`.

Step 2: Understand the UML diagrams

Make sure you understand the UML diagrams given above.

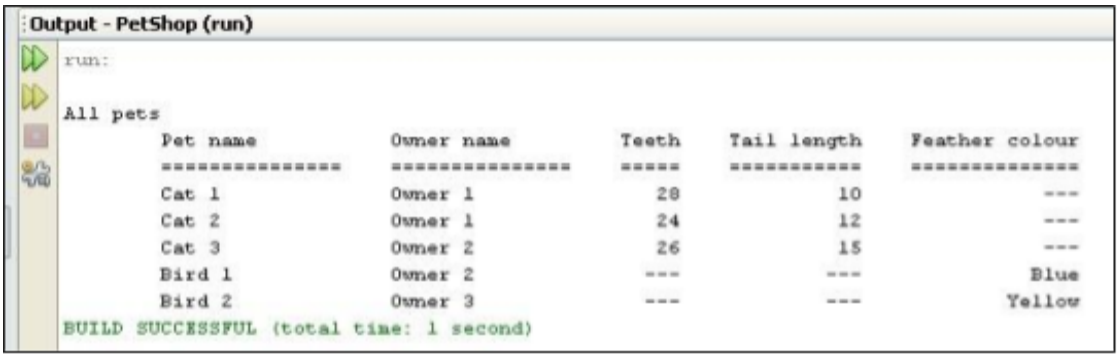
Step 3: Create the classes

Add to your NetBeans project the required Java classes. Following the UML diagrams precisely, write the Java code for the classes you have just created.

Hint: Remember to ensure that the constructor methods in the subclasses call the superclass's constructor method.

Step 4: Write an application class

Add to your project a Java class called `PetShopApplication`. The `main()` method should create three `Cat` objects and two `Budgie` objects. Next, the `main()` method should output the details of all pets to the console window in a tabulated format, similar to the illustration below.



Step 5: Test your program

Run your program, and take a screen shot. Make sure your pet names are not the same as the illustration above.

Portfolio requirements:

- All your `.java` source code files from steps 3 and 4
- An image file (`.jpg`, `.gif`, or `.png`) of your screen shot from step 5 with pet names different from the illustration above.