

POTD12.1. Problem of the Day #12

Download and Extract

An initial setup of files is provided to you via a shell script: [Download potd-q12](#)

Using a terminal, extract the initial files by running the shell script you just downloaded (you will need to navigate to the directory where you saved the file):

```
sh potd-q12.sh
```

Your files for this problem will be in the potd-q12 directory.

The Problem

Write a class `Animal`. This class must:

- Store the type of animal as a `string type_`.
- This variable must only be able to be changed by functions of the `Animal` class.
- Store the type of food the animal eats as a `string food_`
- This variable should be able to be accessed by functions of the `Animal` class **and** functions of derived classes.
- Contain getter and setter functions `getType`, `setType`, `getFood`, and `setFood`.
- Contain a function `print` that returns a string "I am a _____. ", where the blank contains the type of the animal.
- This function should be able to be overridden by derived classes.
- Contain two constructors:
 - A default that initializes the animal type to "cat" and type of food to "fish".
 - A constructor that accepts the type of the animal and type of food as parameters.

Testing Your Code

We have given you a `main.cpp` to test this. The expected output is:

```
Default constructor:
  Type: cat, Food: fish
I am a cat

Two parameter constructor:
  Type: horse, Food: hay
I am a horse

After using setters:
  Type: snake, Food: mouse
I am a snake
```

Upload Solution

Drop files here or click to upload.
Only the files listed below will be accepted—others will be ignored.

Files

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Animal.cpp

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Animal.h

POTD 12

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Animal.cpp

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Test Results

✓

[1/1]

Test default constructor.

▾

✓

[1/1]

Test parameter constructor.

▾

✓

[1/1]

Test setType and setFood.

▾