CSC 230 Elementary Data Structures and Algorithms
Spring 2014 - Assignment 2
Due Friday, February 14, 2014, 8:00am

Assignment 2 Skills

Using Generics
Using Inheritance

Assignment 2 Background

Consider the software system from Assignment 1 that models a `StoreShelf`, and a `Product`. We would like to make a couple of modifications to this system.

Create a **Generic** class `Bucket` to can store any type of object. The bucket has one data item: the object to store. The `Bucket` should have the functionality described:

1. a default constructor.
2. a method `addItem` that takes 1 parameter: the item to store.
3. a method `isEmpty` that takes 0 parameters: and return true if the bucket is empty and false if there is an item stored in it.

We also wish to obtain products that have a limited shelf life. Create a new class `PerishableProduct`, that inherits from `Product`. In addition it should have new member variables called `daysOnShelf`, `daysToKeep`. It should have one constructor that takes 4 parameters: the product name, price, count, and days to keep.

Assignment 2 Requirements

20% - Write the `Bucket` class using Generics.
20% - `Bucket` class has methods described.
20% - Write the `PerishableProduct` class using Inheritance.
20% - `PerishableProduct` class has only 1 constructor as specified.
10% - `daysOnShelf` and `daysToKeep` are of an appropriate type.
10% - Provide comments where appropriate.

Assignment 2 Submission Submit on Blackboard:

1. Bucket.java
2. PerishableProduct.java

Required Each submitted file should include your name and a statement that this is your own work. This should appear as a comment at the beginning of any code file.