Week5Lab – 10 pts

Pre-lab questions

1. Overloading methods can be challenging to understand. Write the following methods, all with the same method name:
   1. Write a method called address that takes in one string.

public static void address(String city) {

System.out.println("Address: " + city);

}

* 1. Write a method called address that takes in three strings, one for each line of the address.  
     public static void address(String street, String city, String state) {

System.out.println("Street:" + street + "\nCity:" + city + "\nState:" + state);

}

* 1. Write a method called address that takes in three strings and an int, where the three strings represent each line of the address and the int is the 5-digit zip code.

public static void address(String street, String city, String state, int zipcode) {

System.out.println("Street: " + street + "\nCity: " + city + "\nState: " + state + "\nzipcode: " + zipcode);

}

* 1. Write method calls for each of the overloaded address methods

binaryDecimal.address("panchshilnagar");

binaryDecimal.address("panchshilnagar", "pune", "maharashtra");

binaryDecimal.address("panchshilnagar", "pune", "maharashtra", 19102);

* 1. When do you think this could be useful?  
     it is easy for programmer to use the same method name to increase the readability of the program. It gives flexibility to call a similar method with different types of data. Overloading is used on constructors to create new objects given different amounts of data.

Choose one of the following to develop into a program that uses at least one class outside of the driver class that contains the main method, and an interface. Once chosen, do the following:

Bodega

Understand the problem (restate in your own words, make any assumptions clear):

In this problem I have to get the list of items from user and some from while creating the objects. In this they will get some information like name, location, price, actual and desired stock availability from user. It will check the expire item using local date format. And print the true or false result.  
  
UML diagrams of any classes needed, including the one with main and the interface:

Text

Description automatically generated  
  
Pseudocode of any non-trivial methods in each class (no pseudocode needed for basic setters and getters or no args constructors):

Bodega.java

In first class Bodega I have created the class with 3 different constructors and some getters and setters and toString method.

Inventory.java

In Inventory class I have made it as interface and in that class create one method called has expired which takes the local date and calculate the difference and give it the Boolean result.

Food.java

In food class I create array list which is having food and nonfood items it will print the list using food object and method name get food and get nonfood method.

BodegaTester.java

Last class is Bodega Tester which test the methods of all these classes and print out the results using toString and System.out.println method.  
  
Name of files (.java) submitted:

Bodega.java, Inventory.java, Food.java, BodegaTester.java  
  
White box test plan and results for ONE of the classes:

I made the white box tesing on Bodega class and apply all the methods in these tester class and check it it works fine or not.

Items in this List

[Milk, Paper Towels, Oreos, Doritos, Scissors, Yogurt, Canned beans, Lighter]

Fila

50.0

14

15

LA

BATA

70.0

79

25

PA

Nike

100.0

25

50

LA

Expired Status :false

[Milk, Oreos, Doritos, Yogurt, Canned beans]

Addidas

150.0

29

40

PA

Expired Status :true

[Paper Towels, Scissors, Lighter]

Brandname : Fila

Price : $50.0

Desired\_Stock\_Quantity : 15

Actual\_Stock\_Quantity : 10

Brandname : BATA

Price : $70.0

Desired\_Stock\_Quantity : 25

Actual\_Stock\_Quantity : 40

Brandname : Nike

Price : $100.0

Desired\_Stock\_Quantity : 50

Actual\_Stock\_Quantity : 25

Brandname : Addidas

Price : $150.0

Desired\_Stock\_Quantity : 40

Actual\_Stock\_Quantity : 20

Bodega

A small Bodega needs an inventory program to help them track their stock. The items they sell come in two categories: food and non-food. All items have a brand name, a price, a desired stock quantity, an actual quantity, and a location. Non-food items are taxed, but food items are not. Some food items are perishable and have a sell by date. They like to move items that are within one week of their sell by date to an impulse buy location near the register, so they need to be able to get a list of what is about to go out. They also want a list of items they have more in stock than the desired quantity, again, so they can put them up front. For this first pass include milk, paper towels, Oreos, Doritos, scissors, yogurt, canned beans and lighter. You can generate reasonable stock quantity and randomly generate actual quantity.

Band

The coach of the marching band wants to have a program that will help his students learn the basics of each instrument and prop. Ultimately this will be a GUI app with lots of recordings, but at this stage, you are just planning out how everything will work together. You can use text for the sounds instruments make as placeholders for the audio recordings. He wants all the musical instruments and the batons and flag included in this program. Only musical instruments make sounds, but all musical instruments make sounds. Each instrument and prop should have a name and a String representation. They will each belong to one of the following categories: prop, woodwind, brass, percussion. For this first pass, you need to have two instruments in each category and two props.

Dungeon Crawl

Your friend has a great idea for a new dungeon crawler game but he’s not sure if his ideas for weapon values can be done in a program. He wants to create several base weapons, such as dagger, sword, hammer, ax, mace, and halberd. Each will do a different amount of damage related to the common dice in D&D. The dagger would do 1-4, the sword 1-6, etc. The dice are 4d, 6d, 8d, 10d, 12d, and 20d. The complicating part is that many weapons can be enchanted, and enchantments add more randomness to the weapon values. Daggers and halberds cannot be enchanted. An enchanted weapon gets to add a second random number to the base weapon number. Some weapons that can be enchanted have an enchantment value of 0, they always return 0 to add to the weapons value. Some weapons that can be enchanted have an enchantment value that is a random number that gets added to the “roll” and others act as a second “roll” to be added to the weapons roll. A given enchantment may add an effect to the weapon. Each weapon should have a toString() that may return something like this: Flaming Sword, 8 or Thor’s Hammer, 20. He wants to be able to create weapons with random enchantments and to create weapons and add specific enchantments.