CIS 580 Fall 2020

Assignment 02: JUnit

Objective :

Practice JUnit Test on small JAVA program.

Tasks:

- Exploit JUnit to test the following program
- Specifications to test (write appropriate tests for the following conditions)
  - When created, the cart has 0 items
  - When empty, the cart has 0 items
  - When a new product is added, the number of items must be incremented
  - When an item is removed, the number of items must be decreased

Submission:

- Please submit a zip file of your Unit test programs via CANVAS by 11/22/20. No late submission will be accepted.

- **The code is in the following three files the first file is called "Product.java":**

```
public class Product {
   private String title;
   private double price;

   public Product (String t, double p) {
      this.title = t;
      this.price = p;
   }

   public String getTitle() {
      return title;
   }

   public double getPrice() {
      return price;
   }

   public boolean equals(Object o) {
      if (o instanceof Product) {
         Product p = (Product)o;
         return p.getTitle().equals(title);
      }
      return false;
   }
}
```

- **The second file is called "ProductNOtFoundException.java":**

```
public class ProductNotFoundException extends Exception {
  public ProductNotFoundException() {
    super();
  }
}
```

- **And the last file is "ShoppingCart.java":**
- import java.util.*;
- public class ShoppingCart {

```
  private ArrayList items;

  public ShoppingCart() {
    items = new ArrayList();
  }

  public double getBalance() {
    double balance = 0.00;
    for (Iterator i = items.iterator(); i.hasNext();){
      Product item = (Product)i.next();
      balance += item.getPrice();
    }
    return balance;
  }

  public void addItem(Product item) {
    items.add(item);
  }

  public void removeItem(Product item)
      throws ProductNotFoundException {
    if (!items.remove(item)) {
      throw new ProductNotFoundException();}
  }

  public int getItemCount() {
    return items.size();
  }

  public void empty() {
    items.clear();
  }
}
```