Java Assignment – 3

Code:

```java
        return purchaseprice;
37  }
38
39  public void setpurchaseprice(double purchaseprice) {
40      this.purchaseprice = purchaseprice;
41  }
42
43  public double getsalesprice() {
44      return salesprice;
45  }
46
47  public void setsalesprice(double salesprice) {
48      this.salesprice = salesprice;
49  }
50
51  public String getgrade() {
52      return grade;
53  }
54
55  public void setgrade(String grade) {
56      this.grade = grade;
57  }
58
59  public String toString() {
60      return String.format("%-5s %-20s %-10s %-10s %-5s", getId(), getName(), getpurchaseprice(), getsalesprice(), getgrade());
61
62  }
63
64  public boolean equals(Object obj) {
65      if(this == obj)
66          return true;
67      if(obj==null || obj.getClass()!=this.getClass())
68          return false;
69
70      Product product = (Product)obj;
71      return product.id == this.id;
72  }
73
74  public int hashCode() {
75      return this.id;
76  }
77
78  }
79
```

```java
1
2  public class PriceException extends Exception{
3      public PriceException(String s) {
4          super(s);
5      }
6  }
7
```

```java
public class EssentialCommodityException extends Exception{
    public EssentialCommodityException(String str) {
        super(str);
    }
}
```

```java
1
2  public class GradeMismatchException extends Exception{
3      public GradeMismatchException(String str) {
4          super(str);
5      }
6  }
7
```

```java
1  import java.util.*;
2
3  public class FairShop {
4      public static void main(String args[]) throws Exception {
5          Scanner sc= new Scanner(System.in);
6          System.out.println("Enter the number of items: ");
7          int n = Integer.parseInt(sc.nextLine());
8
9          Set<Product> products = new HashSet<Product>();
10         for(int i=0; i<n; i++) {
11             System.out.println("Enter the items: ");
12             String[] prod = sc.nextLine().split(",");
13             Product p = new Product(Integer.parseInt(prod[0]),prod[1], Double.parseDouble(prod[2]), Double.parseDouble(prod[3]), prod[4]);
14             if(p.salesprice <= p.purchaseprice)
15                 throw new PriceException("Price Exception");
16             if(p.grade.equals("E") | p.grade.equals("N")) {
17                 if(p.grade.equals("E")  & p.salesprice-p.purchaseprice > p.purchaseprice/4) {
18                     throw new EssentialCommodityException("Profit is greater than 25%");
19                 }
20             }
21             else {
22                 throw new GradeMismatchException("Grade Mismatch Exception");
23             }
24
25             products.add(p);
26         }
27
28         for(Product pro:products) {
29             System.out.println(pro.toString());
30         }
31         sc.close();
32     }
33 }
34
```

Output:

```
<terminated> FairShop [Java Application] C:\Users\amaan\Downloads\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.1.v20201027-0507\jre\bin\javaw.exe  (06-Jan-2022, 7:13:10 pm – 7:13:27
Enter the number of items:
2
Enter the items:
1,Apple,22.00,25.00,E
Enter the items:
2,Banana,44.00,47.00,E
1       Apple           22.0        25.0        E
2       Banana          44.0        47.0        E
```

```
Enter the number of items:
3
Enter the items:
1, Apple ,10, 15, E
Exception in thread "main" GradeMismatchException: Grade Mismatch Exception
        at FairShop.main(FairShop.java:23)
```