**VAASA UNIVERSITY OF APPLIED SCIENCES**

**E1800945**

**NGUYEN THIEN NHAN**

**HOMEWORK 3**

package com.Nhan;  
  
public abstract class machineParts {  
 protected String name;  
 protected int numberInStock;  
  
 public String getName() {  
 return name;  
 }  
  
 public int getNumberInStock() {  
 return numberInStock;  
 }  
 public abstract double inventoryValue();  
  
 public abstract String nameAndValue();  
  
 public machineParts(String name, int numberInStock){  
 this.name=name;  
 this.numberInStock=numberInStock;  
 }  
 public String toString(){  
 return String.*format*("%s\t\t%s", name, numberInStock);  
  
  
 }  
  
}  
  
 class partsFromSameFactory extends machineParts{  
 private int amount;  
 private double unitPrice;  
  
 public partsFromSameFactory(String name, int numberInStock, int amount, double unitPrice){  
 super(name, numberInStock);  
 this.amount = amount;  
 this.unitPrice= unitPrice;  
 }  
  
 public double inventoryValue(){  
 return this.amount \* this.unitPrice \* super.numberInStock;  
 }  
 @Override  
 public String toString(){  
 return String.*format*("%s\t\t%s\t\t%s\t\t%.2f\t\t%.2f", name, numberInStock, amount, unitPrice, inventoryValue());  
 }  
  
 public String nameAndValue(){  
 return String.*format*("%s\t\t%.2f", name, inventoryValue());  
 }  
  
  
}  
  
class partsArePurchased extends machineParts{  
 private double price;  
 private String supplier;  
 public partsArePurchased(String name, int numberInStock, double price, String supplier){  
 super(name, numberInStock);  
 this.price = price;  
 this.supplier= supplier;  
 }  
 public double inventoryValue(){  
 return this.price \* super.numberInStock;  
 }  
 @Override  
 public String toString(){  
 return String.*format*("%s\t\t%s\t\t%.2f\t\t%s\t\t%.2f", name, numberInStock, price, supplier, inventoryValue());  
  
 }  
 public String nameAndValue(){  
 return String.*format*("%s\t\t%.2f", name, inventoryValue());  
 }  
}

MAIN

package com.Nhan;  
  
import java.util.ArrayList;  
  
public class Main {  
  
 public static void main(String[] args) {  
 // write your code here  
 ArrayList<machineParts> parts = new ArrayList<>();  
 parts.add(new partsFromSameFactory("part1", 3, 3, 4.5));  
 parts.add(new partsFromSameFactory("part2", 5, 2, 6));  
 parts.add(new partsArePurchased("part3", 1, 7, "company1"));  
 parts.add(new partsArePurchased("part4", 4, 9, "company2"));  
  
 for (machineParts m : parts) {  
 if (m instanceof partsFromSameFactory)  
 System.*out*.println(m.toString());  
 else if(m instanceof partsArePurchased)  
 System.*out*.println(m.toString());  
 }  
 System.*out*.println("\n\n Part Names And Inventory Value:");  
  
 // for(int i =0; i < parts.size(); i++){  
 // System.out.println(parts.get(i).getName() +"\t\t" + parts.get(i).inventoryValue());  
 //}  
  
 for(machineParts l: parts){  
 System.*out*.println(l.nameAndValue());  
 }  
 }  
}

Example of running the program

