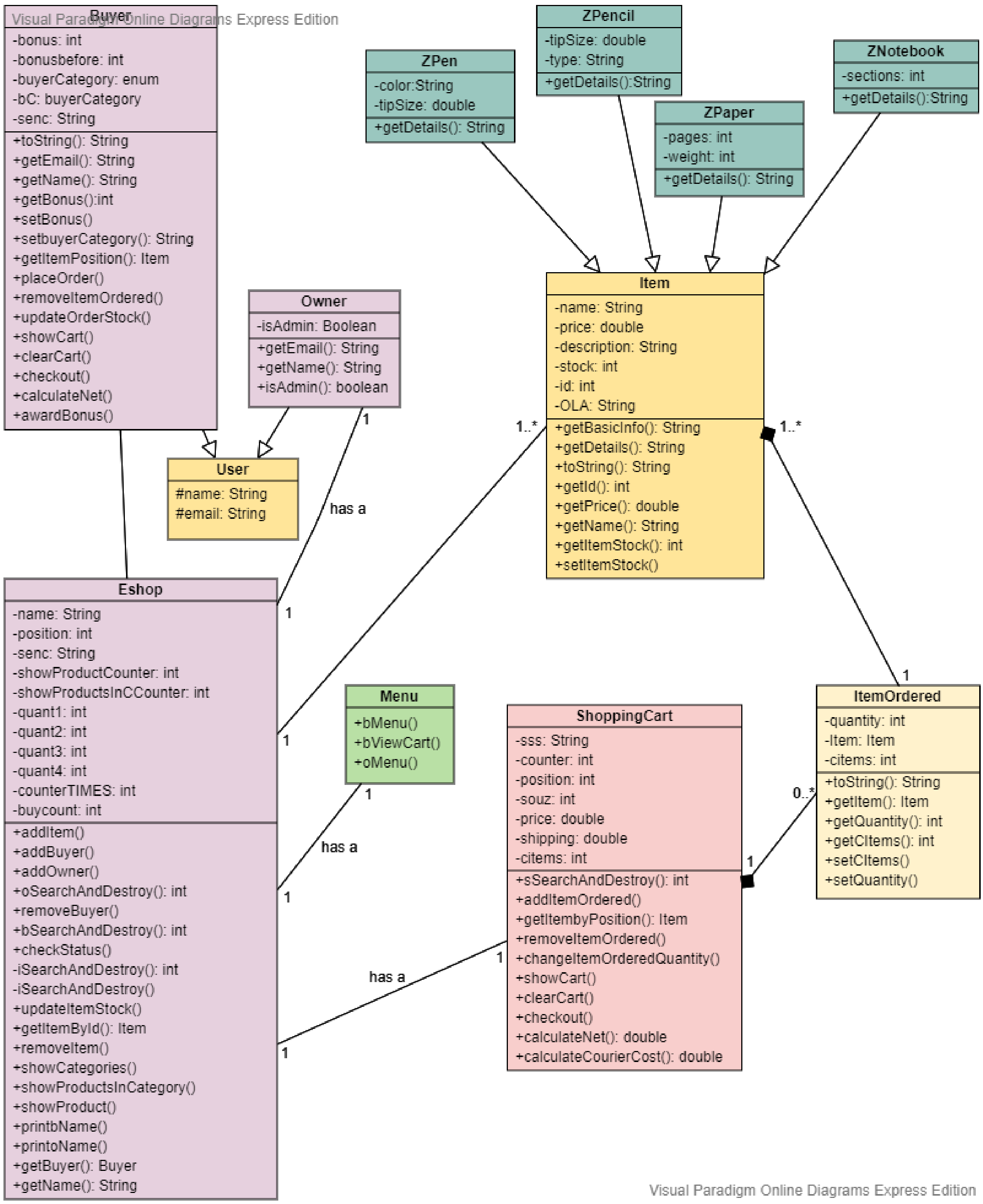
PROJECT ΟΝΤΟΚΕΝΤΡΙΚΟΥ ΠΡΟΓΡΑΜΜΑΤΙΣΜΟΥ 2020

Όνομα – ΑΜ – Email:

ΣΤΕΦΑΝΟΣ ΝΙΚΟΛΟΠΟΥΛΟΣ AM: 1047147 email: stefanikolo@gmail.com

Ο σύνδεσμος στο Github είναι ο εξής: https://github.com/NikStef/Java_Project_2020

Το UML διάγραμμα μας είναι το παρακάτω και υλοποιήθηκε με το πρόγραμμα Visual Paradigm:



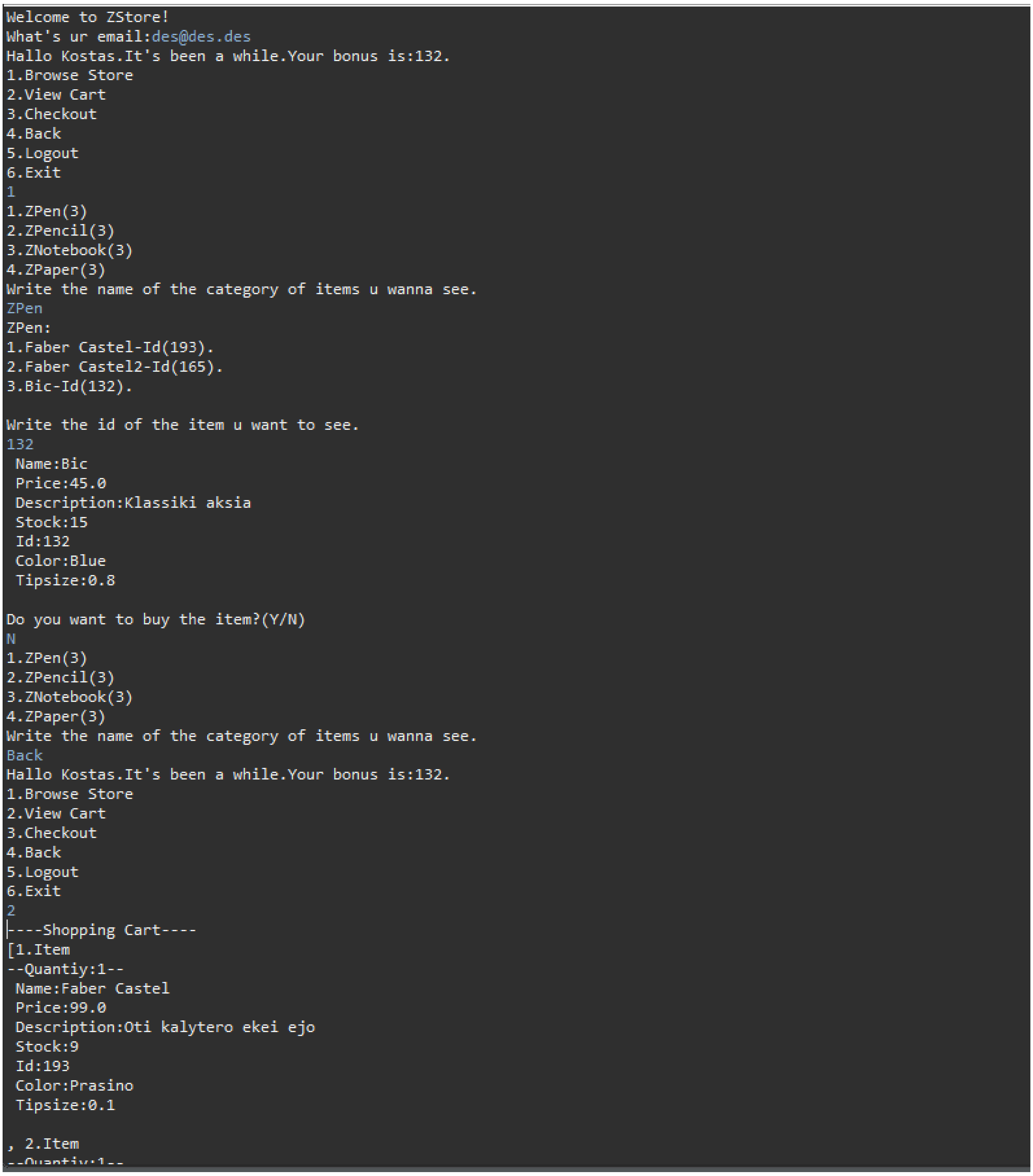
Στην υλοποποίηση χρησιμοποιήσαμε την γλώσσα JAVA και σαν λογισμικό το Eclipse.
Οι κλάσσεις που υλοποιήθηκαν είναι:

- User,Owner,Buyer,Item,Pen,Pencil,Notebook,Paper,Eshop,ItemOrdered,ShoppingCart,Menu

Δεν υλοποιήθηκαν ξεχωριστές κλάσεις εξαιρέσεων.

<u>Σημείωση 1</u>:Όσο αναφορά την κλάση Item η εκφώνηση έλεγε οτι δεν θα έχει στιγμιότυπα δηλαδή θα πρόκειται για μια abstract class(και μάλιστα η μέθοδος getDetails() της Item θα ήταν μία abstract μέθοδος καθώς δεν τρέχει ποτέ απο την κλάση Item αλλά απο τα ‘‘παιδιά’’ της.) αλλά εμείς την υλοποιήσαμε διαφορετικά γιατί θέλαμε να δημιουργήσουμε αντικείμενα τύπου Item για περισσότερη ευκολία.

Μία εκτέλεση είναι η παρακάτω:



```
Welcome to ZStore!
What's ur email:des@des.des
Hallo Kostas.It's been a while.Your bonus is:132.
1.Browse Store
2.View Cart
3.Checkout
4.Back
5.Logout
6.Exit
1
1.ZPen(3)
2.ZPencil(3)
3.ZNotebook(3)
4.ZPaper(3)
Write the name of the category of items u wanna see.
ZPen
ZPen:
1.Faber Castel-Id(193).
2.Faber Castel2-Id(165).
3.Bic-Id(132).

Write the id of the item u want to see.
132
 Name:Bic
 Price:45.0
 Description:Klassiki aksia
 Stock:15
 Id:132
 Color:Blue
 Tipsize:0.8

Do you want to buy the item?(Y/N)
N
1.ZPen(3)
2.ZPencil(3)
3.ZNotebook(3)
4.ZPaper(3)
Write the name of the category of items u wanna see.
Back
Hallo Kostas.It's been a while.Your bonus is:132.
1.Browse Store
2.View Cart
3.Checkout
4.Back
5.Logout
6.Exit
2
----Shopping Cart----
[1.Item
--Quantiy:1--
 Name:Faber Castel
 Price:99.0
 Description:Oti kalytero ekei ejo
 Stock:9
 Id:193
 Color:Prasino
 Tipsize:0.1

, 2.Item
--Quantiy:1--
```

Κώδικας Κλάσεων:

1.Amain

```
import java.util.Scanner;
import java.util.regex.Pattern;
import java.util.InputMismatchException;

public class Amain {


        public static boolean isValid(String mail)
   {
      String emailRegex = "^[a-zA-Z0-9_+&*-]+(?:\\."+
                    "[a-zA-Z0-9_+&*-]+)*@" +
                    "(?:[a-zA-Z0-9-]+\\.)+[a-z" +
                    "A-Z]{2,5}$"; //kanonikh ekfrash gia ena email

      Pattern pat = Pattern.compile(emailRegex);
      if (mail == null)
         return false;
      return pat.matcher(mail).matches();
   }

        public static void main(String[] args) {

                Eshop MyShop = new Eshop();
                Menu MyMenu = new Menu();
                Boolean validity = true; //email
                int position;
                int loop = 1;
                String back;
                String SolemnWarning; //catch /n
                int btry;//convertion string to int

                String cas2an = "0time";//case2 debugger



                //(String name, double price, String description, int stock, int id, String color,double
tipSize)ZPen
                //(String name, double price, String description, int stock, int id, double
tipSize,String type) ZPencil
                //(String name, double price, String description, int stock, int id, int sections)
                 ZNotebook
                //(String name,double price,String description,int stock,int id,int weight,int pages)
                         ZPaper

           MyShop.addItem("Faber Castell",2,"The best blue pen",10, 193, "Blue", 0.4);//ZPen
           MyShop.addItem("Pelikan",1.5,"Our new black pen",15, 165, "Black", 0.3);//ZPen
           MyShop.addItem("Bic",1.8,"Classic",20, 132, "Blue", 0.6);//ZPen

                MyShop.addItem("Dessin",3,"Your favourite pencil",40, 154, 0.4,"B");//ZPencil
                MyShop.addItem("Staedtler",2.1,"OUR BESTSELLER",34, 152,
0.6,"HB");//ZPencil
```

```
        MyShop.addItem("Faber Castell",2.5,"THE BEST PENCIL EVER",21, 170,
0.5,"H");//ZPencil


        MyShop.addItem("Apica", 6.5, "Economical and ecological", 9, 123, 2);//ZNotebook
        MyShop.addItem("Moleskine", 5, "For all kids", 15, 120, 3);//ZNotebook
        MyShop.addItem("Skag", 4.5, "Classic and cool", 6, 110, 2);//ZNotebook


        MyShop.addItem("Hp Paper", 4.5, "Special Quality", 20, 211, 5,350);//ZPaper
        MyShop.addItem("Fabriano", 5, "Very economical, you must buy it", 32, 220,
5,500);//ZPaper
        MyShop.addItem("Navigator", 3.5, "You must have it", 28, 215, 4,300);//ZPaper

        MyShop.addBuyer("Kostas", "des@des.des", 132);
        MyShop.addBuyer("Antreas", "antreas_1@gmail.com",89);

        MyShop.addOwner("Mhtsos", "dos@dos.dos");

        MyShop.getBuyer(0).placeOrder(1, MyShop.getItemById(193));
//placeorder(stock,item)  0 - position sto list me toys buyer
        MyShop.getBuyer(0).placeOrder(1, MyShop.getItemById(165));
        MyShop.getBuyer(0).placeOrder(2, MyShop.getItemById(152));
        MyShop.getBuyer(0).placeOrder(1, MyShop.getItemById(110));
        MyShop.getBuyer(0).placeOrder(3, MyShop.getItemById(211));

        MyShop.getBuyer(1).placeOrder(2, MyShop.getItemById(120));
        MyShop.getBuyer(1).placeOrder(1, MyShop.getItemById(193));
        MyShop.getBuyer(1).placeOrder(3, MyShop.getItemById(220));
        MyShop.getBuyer(1).placeOrder(1, MyShop.getItemById(215));
        MyShop.getBuyer(1).placeOrder(7, MyShop.getItemById(132));


        Scanner input = new Scanner(System.in);
        do {
            System.out.println("Welcome to " + MyShop.getName() + "!" );

            System.out.print("What's ur email:");
            String mail = input.nextLine();
            validity = isValid(mail);
            if (validity == false) {
                System.out.println("Pls enter ur email CORRECTLY!");
            }else {
                position = MyShop.oSearchAndDestroy(mail); //elegxei prwta an to
email einai toy owner
                  if (position == -1) { //den einai owner
                    position = MyShop.bSearchAndDestroy(mail); //elegxei an
einai buyer
                    if (position == -1) { //den einai buyer
                        System.out.println("This email is not registered.Would
u like to make a new account?(Y/N)");
                        String answer = input.nextLine();
                        if (answer.contentEquals("Y")){
                            System.out.print("Then,please enter your
name:");
                            String name = input.nextLine();
                            MyShop.addBuyer(name, mail, 0);  //prosthetei
buyer
                            position = MyShop.bSearchAndDestroy(mail);
//alternative position = 0
                        }else {
                            System.out.println("Ok,exiting the program
now.");
                            System.exit(0);
                        }

                    }

              if (position > -1) { //einai buyer

                        do{
                            loop = 0;
                            MyShop.printbName(position); //ektypwnei
kalwsorisma
                            MyMenu.bMenu();
                            int ans1 = input.nextInt();
                            String ans2 = input.nextLine();
                            switch(ans1) {
                            case 1: //1.Browse Store
                                do {
                                    MyShop.showCategories();
                                    System.out.println("Write the
name of the category of items u wanna see.");
                                    ans2 = input.nextLine();
                                    if (ans2.contentEquals("Back")){
                                        loop = 1;
                                        break;
                                    }

    MyShop.showProductsInCategory(ans2);
                                    System.out.println("Write the id
of the item u want to see.");

                                    try {
                                        int ans3=input.nextInt();

    MyShop.showProduct(ans3);
                                        System.out.println("Do
you want to buy the item?(Y/N)");
                                        String ans4 =
input.nextLine();
                                        ans4 = input.nextLine();
                                        if
(ans4.contentEquals("Y")){
    MyShop.getBuyer(position).placeOrder(1,MyShop.getItemById(ans3)); //mpainoun sto cart
mia mia h paraggelia

    System.out.println("If you want to return to the Categories press Back");
                                            back = 
input.nextLine();
                                        }else { back  = "Back";}
                                    }
                                    catch(InputMismatchException
e) //an den valei int ton gurnaei pisw
                                    {
                                        SolemnWarning = 
input.nextLine();
                                        back = "Back";
                                    }


    }while(back.contentEquals("Back"));
                                break;
                        case 2: //View Cart
                            do {
                                MyShop.getBuyer(position).showCart();
                                MyMenu.bViewCart();
                                System.out.println("If you wanna edit an
item in the cart press the number of the item.Else press the other options.");

                                if (cas2an.contentEquals("ftime")){
                                    cas2an=input.nextLine();
                                }
                                String ans5 = input.nextLine();
                                if (ans5.contentEquals("Back")){
                                    loop=1;
                                    break;
                                }else if
(ans5.contentEquals("b")){ //ClearCart

    MyShop.getBuyer(position).clearCart();
                                    back  = "Back";
                                    cas2an = "0time";
                                }else if
(ans5.contentEquals("c")){ //Checkout

    MyShop.getBuyer(position).checkout(MyShop.getBuyer(position));
                                    back  = "Back";
                                    cas2an = "0time";
                                }else {
                                    try {
                                      btry = Integer.parseInt(ans5);
//allazei an mporei to ans5 se int
                                     }
```

```
                                            catch (NumberFormatException
e)
                                            {
                                             SolemnWarning =
input.nextLine();
                                             btry = -1;
                                            }

                                            System.out.println("1.Delete the
item?");
                                            System.out.println("2.Change
stock?");

                                            try {
                                                int ans6=input.nextInt();
                                                if (ans6 == 1) {

    MyShop.getBuyer(position).removeItemOrdered(MyShop.getBuyer(position).getItembyPos
ition(btry));
                                                    back  = "Back";
                                                    cas2an = "ftime";
                                                }else if(ans6==2) {

    System.out.println("Type how you want to change the stock.");
                                                    int ans7 =
input.nextInt();

    MyShop.getBuyer(position).updateOrderStock(ans7,MyShop.getBuyer(position).getItemby
Position(btry)); //o xrhsths plhktrologei pws tha allaksei to stock + gia prosthesi - gia afairesi
                                                    back  = "Back";
                                                    cas2an = "ftime";
                                                }else { back  = "Back";}
                                            }
                                            catch(InputMismatchException
e)
                                            {
                                                SolemnWarning =
input.nextLine();
                                                back = "Back";
                                            }

                                       }
                                   }while(back.contentEquals("Back"));
                                break;
                               case 3: //Checkout

MyShop.getBuyer(position).checkout(MyShop.getBuyer(position));
                                   loop = 1;
                                   break;
                               case 4: //Back
                                   System.out.println("You want to
logout?(Y/N)");
```

```
                            String ans8 = input.nextLine();
                            if (ans8.contentEquals("Y")) {
                                loop = 0;
                            }else {
                                 loop = 1;
                            }
                            break;
                        case 5: //Logout
                            loop=0;
                            break;
                        case 6: //Exit
                            System.out.println("Ok,exiting the program 
now.");

                            System.exit(0);
                            break;
                        }
                    }while( loop == 1);
                }
            }else { //owner
                do {
                loop=0;
                MyShop.printoName(position); //ektypwnei kaloswrisma
                MyMenu.oMenu();
                int ans9 = input.nextInt();
                String ans10 = input.nextLine();
                switch(ans9) {
                case 1: //Browse Store
                    do {

                        MyShop.showCategories();
                        System.out.println("Write the name of the category of 
items u wanna see.");

                        String ans2 = input.nextLine();
                     if (ans2.contentEquals("Back")){
                            loop = 1;
                            break;
                        }
                        MyShop.showProductsInCategory(ans2);
                        System.out.println("Write the id of the item u want to 
see.");


                        try {
                            int ans3=input.nextInt();
                            MyShop.showProduct(ans3);
                            System.out.println("Do you want to update the 
item stock the item?(Y/N)");

                            String ans4 = input.nextLine();
                            ans4 = input.nextLine();
                            if (ans4.contentEquals("Y")){
                                System.out.println("Enter new stock.");
                                int nws = input.nextInt();
                                MyShop.updateItemStock(nws,ans3);
//setarei to neo stock, den plhktrologei pws allazei
                                System.out.println("If you want to return
to the Categories press Back");
                                back = input.nextLine();
                                back= input.nextLine();
                            }else { back  = "Back";}
                        }
                        catch(InputMismatchException e)
                        {
                            SolemnWarning = input.nextLine();
                            back = "Back";
                        }

                        }while(back.contentEquals("Back"));
                    break;
                case 2: //Check Status
                    do {

                        MyShop.checkStatus();
                        System.out.println("Which one of the buyers you want
to check?");
                        try {
                            int ans13 = input.nextInt();
                            position = ans13-1;
                            MyShop.getBuyer(position).showCart();
                            System.out.println("Would u like to delete this
buyer?(Y/N)");
                            String ans14 = input.nextLine();
                            ans14 = input.nextLine();
                            if (ans14.contentEquals("Y")) {

    MyShop.removeBuyer(MyShop.getBuyer(position).getEmail()); //diagrafh buyer
                            }
                            System.out.println("Type Back if you want to
see the buyers again");
                            back = input.nextLine();
                        }
                        catch(InputMismatchException e){
                            SolemnWarning = input.nextLine();
                            loop=1;
                            break;
                        }
                    }while (back.contentEquals("Back"));
                    break;
                case 3: //Back
                     System.out.println("You want to logout?(Y/N)");
                      String ans11 = input.nextLine();
                      if (ans11.contentEquals("Y")) {
                        loop = 0;
                      }else {
                         loop = 1;
```

```
                                                }
                                               break;
                                    case 4: //Exit
                                                loop=0;
                                               break;
                                    case 5:
                                               System.out.println("Ok,exiting the program now.");
                                               System.exit(0);
                                               break;
                                    }
                                    }while (loop==1);
                        }
            }
      }
      while((validity == false) || (loop==0)); //an to email einai lathos morfhs h ekane log out o
xrhsths
  }

}
```

2.Buyer

```
public class Buyer extends User {
      private int bonus = 0; //pontoi agorwn
      private int bonusbefore;
      private enum buyerCategory {BRONZE,SILVER,GOLD} ;
      private buyerCategory bC;

      ShoppingCart MyCart = new ShoppingCart();

      private String senc; //string enum category

      public Buyer(String name,String email,int bonus) {
            this.name = name;
            this.email = email;
            this.bonus = bonus;
      }

      @Override
      public String toString(){
      return (name + " " + email + " " + bonus);
      }
      public String getEmail() {
            return email;
      }
      public String getName() {
            return name;
      }
      public int getBonus() {
            return bonus;
      }

      public void setBonus(int bonus) {
        this.bonus=bonus;
    }
    public void awardBonus(double price,Buyer b1) {
        bonusbefore = b1.getBonus();
        bonus = (int)Math.round(price * 0.1); //stroggilopoishsh tou apotelesmatos ston pio
kontino integer

        bonus =  bonus + bonusbefore;

        setBonus(bonus);

    }

    public String setbuyerCategory(int bonus) {
        if (bonus<100) {
            bC = buyerCategory.BRONZE;
            senc = bC.toString();
            return senc;
        }else if(bonus<200) {
            bC = buyerCategory.SILVER;
            senc = bC.toString();
            return senc;
        }else {
            bC = buyerCategory.GOLD;
            senc = bC.toString();
            return senc;
        }
    }
    public Item getItembyPosition(int pos2) {
        return MyCart.getItembyPosition(pos2);

    }
    public void placeOrder(int stock,Item item) {
        MyCart.addItemOrdered(stock,item);
    }
    public void removeItemOrdered(Item item) {
        MyCart.removeItemOrdered(item);
    }
    public void updateOrderStock(int stock,Item item) {
        MyCart.changeItemOrderedQuantity(stock,item);
    }
    public void showCart() {
        MyCart.showCart();
    }
    public void clearCart() {
        MyCart.clearCart();
    }
    public void checkout(Buyer b1) {
        MyCart.checkout(b1);
    }
    public void calculateNet() {
        MyCart.calculateNet();
```

```
	}

}
```

3.Eshop

```
import java.util.List;
import java.util.ArrayList;


public class Eshop {
	private String name = "ZStore";
	private int position = -1;//position sto List
	private String senc;

	private int showProductsCounter = 1;
	private int showProductsInCCounter = 0;
	private int quant1 = 0;//pen
	private int quant2 = 0;//pencil
	private int quant3 = 0;//notebook
	private int quant4 = 0;//paper

	private int counterTIMES = 0;
	private int buycount = 0;

	List itemsList = new ArrayList();
	List buyerList = new ArrayList();
	List ownerList = new ArrayList();

	public void addItem(String name, double price, String description, int stock, int id, String
color,double tipSize) {//ZPen
		ZPen pen = new ZPen(name,price,description,stock,id,color,tipSize);
		itemsList.add(pen);
	}
	public void addItem(String name, double price, String description, int stock, int id, double
tipSize,String type) {//ZPencil
		ZPencil pencil = new ZPencil(name,price,description,stock,id,tipSize,type);
		itemsList.add(pencil);
	}
	public void addItem(String name, double price, String description, int stock, int id, int
sections) {//ZNotebook
		ZNotebook notebook = new ZNotebook(name,price,description,stock,id,sections);
		itemsList.add(notebook);
	}
	public void addItem(String name,double price,String description,int stock,int id,int
weight,int pages) {//ZPaper
		ZPaper paper = new ZPaper(name,price,description,stock,id,weight,pages);
		itemsList.add(paper);

	}
```

```
public void addBuyer(String name,String email,int bonus) {
		Buyer buyer = new Buyer(name,email,bonus);
		buyerList.add(buyer);



}
public void addOwner(String name,String email) {
		Owner owner = new Owner(name,email);
		ownerList.add(owner);



}
public int oSearchAndDestroy(String email) {
		Object[] itenz = ownerList.toArray();
		position = -1; //arxikopoihsh position -1
		for (int i = 0; i < itenz.length; i++) {
			Owner o1 = (Owner) itenz[i];
			if (email.contentEquals(o1.getEmail())) { //vriskei to email an uparxei
				position = i;

			}
		} //an den to vrei ginetai -1
		return position;
}

public int bSearchAndDestroy(String email) {
		Object[] itenz = buyerList.toArray();
		for (int i = 0; i < itenz.length; i++) {
			Buyer b1 = (Buyer) itenz[i];
			if (email.contentEquals(b1.getEmail())) {
				position = i;

			}
		}
		return position;
}
private int iSearchAndDestroy(int id0) { //vriskei thn thesh
		Object[] itenz = itemsList.toArray();
		for (int i = 0; i < itenz.length; i++) {
			Item i1 = (Item) itenz[i];
			if (id0 == i1.getId()) {
				position = i;
			}
		}
		return position;
}

private void iSearchAndDestroy(int newStock,int id0) { //thetei to stock
		Object[] itenz = itemsList.toArray();
		for (int i = 0; i < itenz.length; i++) {
			Item i1 = (Item) itenz[i];
			if (id0 == i1.getId()) {
```

```
                i1.setItemStock(newStock);
                position = -1;
            }
        }
    }
    public void removeBuyer(String email) {
        position = bSearchAndDestroy(email);
        if (position > -1) {
            buyerList.remove(position);
            position = -1; //arxikopoihsh position -1

        } else {
            System.out.println("The buyer doesn't exist.");
        }
    }

    public void checkStatus() {
        Object[] itenz = buyerList.toArray();
        if (itenz.length>0) {
        for (int i = 0; i < itenz.length; i++) {
            Buyer a1 = (Buyer) itenz[i];
            senc = a1.setbuyerCategory(a1.getBonus());
            buycount++; //metraei tous buyer
            System.out.println( buycount +".Buyer:" + a1.getName() + " Pontoi:" +
a1.getBonus() +" Kathgoria:" + senc);
        }
        buycount=0;
        }else { System.out.println("No more buyers.");}
    }

    public void updateItemStock(int newStock,int id0) {
        iSearchAndDestroy(newStock,id0);
    }

    public Item getItemById(int id1) {
        position = iSearchAndDestroy(id1);
        if (position > -1) {
            Item a1 = (Item) itemsList.get(position);
            position = -1;
            return a1;
        } else {
            System.out.println("Doesn't exist!");
            ZPen Dummy = new ZPen("null",0,"null",0, -999, "null", 0); //dummy item
otan den vriskei to id
            return Dummy;
            }
    }

    public void removeItem(int id2) {
        position = iSearchAndDestroy(id2);
        if (position > -1) {
            itemsList.remove(position);
        position = -1;
    } else {
        System.out.println("Doesnt exist!");
    }
}

public void showCategories() {//case 1
    Object[] itenz = itemsList.toArray();
    if (counterTIMES==0){ //vriskei ta quantities mono thn prwth fora
        counterTIMES=1;
    for (int i = 0; i < itenz.length; i++) {
        Item a1 = (Item) itenz[i];
        switch(a1.getClass().getName()) {
        case "ZPen":
            quant1++;
            break;
        case "ZPencil":
            quant2++;
            break;
        case "ZNotebook":
            quant3++;
            break;
        case "ZPaper":
            quant4++;
            break;
        }
        }
    }
        if (quant1 >0) {
            System.out.print(showProductsCounter);
            System.out.print(".");
            showProductsCounter++;
            System.out.print("ZPen("+quant1+ ")\n");
        }
        if (quant2 >0) {
            System.out.print(showProductsCounter);
            System.out.print(".");
            showProductsCounter++;
            System.out.print("ZPencil("+quant2+ ")\n");
        }
        if (quant3 >0) {
           System.out.print(showProductsCounter);
            System.out.print(".");
            showProductsCounter++;
            System.out.print("ZNotebook("+ quant3 + ")\n");
        }
        if (quant4 >0) {
           System.out.print(showProductsCounter);
            System.out.print(".");
            showProductsCounter++;
            System.out.print("ZPaper("+quant4+ ")\n");
        }
```

```
                showProductsCounter = 1; //arithmish arxis system.out
        }


        public void showProductsInCategory(String Class) {
                Object[] itenz = itemsList.toArray();
                for (int i = 0; i < itenz.length; i++) {
                        Item a1 = (Item) itenz[i];

                        if (Class.contentEquals(a1.getClass().getName())) {
                                if (showProductsInCCounter == 0) {
                                        System.out.print(Class+":\n");
                                        showProductsInCCounter++;
                                }
                                System.out.print(showProductsInCCounter+".");
                                System.out.print(a1.getName());
                                System.out.print("-Id(" + a1.getId()+").");
                                System.out.print("\n");
                                showProductsInCCounter++;
                        }
                }
                showProductsInCCounter=1;
                System.out.println("");
        }
        public void showProduct(int id3) {
                position = iSearchAndDestroy(id3);
                Item a1 = (Item) itemsList.get(position);
                System.out.println(a1.toString());
        }
        public void printbName(int pos) {

                Buyer Bruno = (Buyer) buyerList.get(pos);
                System.out.println("Hallo "+ Bruno.getName() +".It's been a while."+"Your bonus
is:"+Bruno.getBonus()+".");
        }
        public void printoName(int pos) {

                Owner Giorno = (Owner) ownerList.get(pos);
                System.out.println("Hallo "+ Giorno.getName() +".It's been a while."+"You are
admin.("+Giorno.isAdmin()+").");
        }

        public Buyer getBuyer(int position) {
                Buyer Bruno = (Buyer) buyerList.get(position);
                return Bruno;
        }
        public String getName() {
                return name;
        }
}
```

4.Item

```
public class Item { //na doume simeiwseis
	private String name;
	private Double price;
	private String description;
	private int stock;
	private int id;

	private String OLA;

	public Item(String name, double price, String description, int stock, int id) {
		//super();
		this.name = name;
		this.price = price;
		this.description = description;
		this.stock = stock;
		this.id = id;
	}
	public String getBasicInfo() {
		return (" Name:" + name + " \n" + " Price:"+ price + " \n" +" Description:"+
description + " \n" +" Stock:" + stock + " \n" +" Id:" + id +"\n");
	}
	public String getDetails() {
		return name; //dummy method
	}
	@Override
	public String toString(){
	OLA = getBasicInfo() + " " + getDetails();
	return OLA;
	}

	public int getId() {
		return id;
	}
	public double getPrice() {
		return price;
	}
	public String getName() {
		return name;
	}
	public int getItemStock() {
		return stock;
	}
	public void setItemStock(int newStock) {
		this.stock = newStock;
	}

}
```

5.ItemedOrdered

```
public class ItemOrdered {

    private int quantity;
    Item Item;
    private int citems = 0 ;//counter pou metraei to kalathi


    public ItemOrdered(int quantity, Item item,int citems) {
        this.citems = citems;
        this.quantity = quantity;
        Item = item;
        if (Item.getItemStock()>quantity) { //tsekarei to stock poy exoyme me to stock poy
theloyme
        Item.setItemStock(Item.getItemStock() - quantity);
        }else {
            System.out.println("Doesn't have stock!");
        }

    }

    @Override
    public String toString(){
    return (citems+".Item" +"\n--Quantiy:" + quantity + "-- \n" + Item.toString()+ " \n");
    }
    public Item getItem() {
        return Item;
    }
    public int getQuantity() {
        return quantity;
    }
    public int getCItems() {
        return citems;
    }
    public void setCItems(int newCItems) {
        this.citems = newCItems;
    }

    public void setQuantity(int newQuant) {
        this.quantity = newQuant;
    }


}
```

6.Menu

```
public class Menu {


    public void bMenu(){
        System.out.print("1.Browse Store\n");
        System.out.print("2.View Cart\n");
        System.out.print("3.Checkout\n");
        System.out.print("4.Back\n");
        System.out.print("5.Logout\n");
        System.out.print("6.Exit\n");
    }

    public void bViewCart() {
        System.out.println("\n");
        System.out.println("b.ClearCart");
        System.out.println("c.Checkout");
    }
    public void oMenu(){


        System.out.print("1.Browse Store\n");
        System.out.print("2.Check Status\n");
        System.out.print("3.Back\n");
        System.out.print("4.Logout\n");
        System.out.print("5.Exit\n");


  }

}
```

7.Owner

```
public class Owner extends User {
    private boolean isAdmin = true;

    public Owner(String name, String email) {
        this.name= name;
        this.email = email;
        }
    public String getEmail() {
        return email;
    }
    public String getName(){
        return name;
    }
    public boolean isAdmin() {
        return isAdmin;
    }
}
```

8.ShoppingCart

```
import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;

public class ShoppingCart {
    private String sss; //string gia thn kathgoria toy buyer
    private int counter=0;
    private int position=-1;
    private int souz = 0;//megethos array
    private double price = 0;//synoliko price
    private double shipping=0;
    private int citems=0; //counter poy metraei to kalathi

    List orderList = new ArrayList();



    public int  sSearchAndDestroy(int quantity,Item item) { //allazei to stock toy antikeimenoy kai to stock ths paraggelias
        if (orderList.size()>0) {
            Object[] itenz = orderList.toArray();
            for (int i = 0; i < itenz.length; i++) {
                ItemOrdered pc = (ItemOrdered) itenz[i];
                if( pc.getItem() == item) {
                    item.setItemStock(item.getItemStock()-quantity);
                    pc.setQuantity(pc.getQuantity()+quantity);
                    counter=1; //apodeiksh oti eginan allages
                }
            }
        }
        return counter;
    }
    public int sSearchAndDestroy(Item item) { //gurnaei thn thesh toy Item pou psaxnoume
        if (orderList.size()>0) {
            Object[] itenz = orderList.toArray();
            for (int i = 0; i < itenz.length; i++) {
                ItemOrdered pc = (ItemOrdered) itenz[i];
                if( pc.getItem() == item) {
                    position = i;
                    }
            }
        }
        return position;
    }
    public void addItemOrdered(int quantity,Item item) {
        citems++;
        counter = sSearchAndDestroy(quantity, item);
        if (counter == 0){ //den exoume to idio antikeimeno sto cart
            ItemOrdered product = new ItemOrdered(quantity,item,citems);
            orderList.add(product);
            }
        counter = 0;

        }

    public Item getItembyPosition(int pos2) {
        pos2 = pos2-1;
        ItemOrdered cartitem = (ItemOrdered) orderList.get(pos2);
        return cartitem.getItem();
    }
    public void removeItemOrdered(Item item) {
        position = sSearchAndDestroy(item);
        if (position > -1) {
            ItemOrdered pc = (ItemOrdered) orderList.get(position);
            item.setItemStock(item.getItemStock()+pc.getQuantity());
            orderList.remove(position);
            position = -1;

            souz = orderList.size();
            for (int i = 0; i < souz; i++) {
                ItemOrdered cci = (ItemOrdered) orderList.get(0);
                cci.setCItems(cci.getCItems()-1); //allazei to CItems
            }
        }


    }

    public void changeItemOrderedQuantity(int quantity,Item item) {
        position = sSearchAndDestroy(item);
        if (position > -1) {
            ItemOrdered pc = (ItemOrdered) orderList.get(position);
            if (pc.getQuantity()+quantity==0) { //an to quantity meta tis allages einai 0 to vgazei apo to cart
                removeItemOrdered(item);
            }else {
            pc.setQuantity(pc.getQuantity()+quantity);
            item.setItemStock(item.getItemStock()-quantity);
            position = -1;
            }
        }

    }


    public void showCart() {
        System.out.println("----Shopping Cart----");
        if (orderList.size()>0) {
          System.out.println(orderList.toString());}
        else{
            System.out.println("Your Cart is empty.");
        }
    }

    public void clearCart() {
        souz = orderList.size();
        if (souz>0) {
          for (int i = 0; i < souz+1; i++) {
            ItemOrdered pc = (ItemOrdered) orderList.get(0);
            removeItemOrdered(pc.getItem());
        }
```

```
         System.out.println("Your cart is clear!");
        }else {System.out.println("Cart already empty");}

    }

    public void checkout(Buyer b1) {
        if (orderList.size()>0) {
        System.out.println("Would you like to buy those items?(Y/N)");
        showCart();
        Scanner input = new Scanner(System.in);
        String answer = input.nextLine();
         if (answer.contentEquals("Y")) {
            System.out.print("The transaction is complete.You have paid:");
            price = calculateNet();
            sss = b1.setbuyerCategory(b1.getBonus());

            shipping = calculateCourierCost(price,sss);

            System.out.print(price+ " € " + "\n" +"Shipping "+ shipping); //sunoliko price
            b1.awardBonus(price,b1);
            sss =b1.setbuyerCategory(b1.getBonus());
            System.out.println(" " +sss);
            price=0;
            orderList.clear();
        }else if(answer.contentEquals("N")) {
            System.out.println("Transaction is cancelled,items still remain in cart.");
        }
    }else {System.out.println("No items to buy.");}
}


    public double calculateNet() { //ypologizei thn sunolikh timh
        souz = orderList.size();
        for (int i = 0; i < souz; i++) {
            ItemOrdered pc = (ItemOrdered) orderList.get(i);
            price = price + (pc.getItem().getPrice())*pc.getQuantity();
        }
         return price;
    }


    public double calculateCourierCost(double price,String sss) {
    shipping = price* 0.2;
    if (shipping < 3) {
        shipping = 3;
    }
    if (sss.contentEquals(" SILVER")){
        shipping = shipping/2;
    }else if(sss.contentEquals(" GOLD")){
        shipping = 0;
    }
```

```
        return shipping;
}

}
```

9.User

```
public abstract class User {
        protected String name;
        protected String email;
}
```

10.ZNotebook

```
public class ZNotebook extends Item{
        private int sections;

        public ZNotebook(String name, double price, String description, int stock, int id,int
sections) {
                super(name, price, description, stock, id);
                //this.name = name;
                //this.price = price;
                //this.description = description;
                //this.stock = stock;
                //this.id = id;
                this.sections = sections;
        }

        @Override
        public String getDetails() {
                return ("Sections:" + sections + "\n");
        }




}
```

11.ZPaper

```
public class ZPaper extends Item {
        private int pages;
        private int weight;

        public ZPaper(String name, double price, String description, int stock, int id, int pages, int
weight) {
                super(name, price, description, stock, id);
                //this.name = name;
                //this.price = price;
                //this.description = description;
                //this.stock = stock;
                //this.id = id;
        this.pages = pages;
        this.weight = weight;
    }

    @Override
    public String getDetails() {
        return ("Pages:" + pages + " \n" +" Weight:"+ weight + "\n");
    }


}
```

12.ZPen

```
public class ZPen extends Item {
    private String color;
    private double tipSize;//se mm


    public ZPen(String name, double price, String description, int stock, int id, String color,
double tipSize) {
        super(name, price, description, stock, id);
        //this.name = name;
        //this.price = price;
        //this.description = description;
        //this.stock = stock;
        //this.id = id;
        this.color = color;
        this.tipSize = tipSize;

    }

    @Override
    public String getDetails() {
        return ("Color:" + color + " \n" +" Tipsize:" + tipSize +"\n");
    }


}
```

13.ZPencil

```
public class ZPencil extends Item{
     private double tipSize;
     private String type; //H,B,HB

     public ZPencil(String name, double price, String description, int stock, int id, double
tipsize,String type) {
        super(name, price, description, stock, id);
        //this.name = name;
        //this.price = price;
        //this.description = description;
        //this.stock = stock;
        //this.id = id;
```

```
		this.tipSize = tipsize;
		this.type = type;
	}
	 @Override
		public String getDetails() {
			return ("Tipsize:" + tipSize + "\n" +" Type:"+ type+"\n");
		}


}
```