Online Shopping A - JOLS-S3-L1-1-Display Products

```
import java.util.*;

public class Source {
    public static void main(String args[] ) throws Exception {
        int size=5;
        String[] prod=new String[size];
        Scanner sc=new Scanner(System.in);
        for(int i=0;i<size;i++){
            prod[i]=sc.nextLine();
        }
        for(int i=0;i<size-1;i++){
            for(int j=i+1;j<size;j++){
                if(prod[i].compareTo(prod[j])>0){
                    String tm=prod[i];
                    prod[i]=prod[j];
                    prod[j]=tm;
                }
            }
        }
        for(int j=0;j<size;j++){
            System.out.println(prod[j]);
        }
        sc.close();
    }
}
```

Online Shopping A - JOLS-S3-L1-2-Products By Category

```
import java.util.*;

public class Source {
        static String[] mobile={"Samsung S8","One Plus 8","Sony
Experia"};
        static String[] tv={"VU 55 Inches","Sony TV","Samsung Tv"};
        static String[] electronics={"Speakers","DSLR
Cameras","Security Cameras"};
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
                String input=sc.next();
                switch (input.toLowerCase()) {
                    case "mobile": getMobile();
                        break;
                    case "tv": getTv();
                        break;
                    case "electronics": getElectronics();
                        break;
```

```
                    default: System.out.println("No Products
Available");
                }
                sc.close();
    }
        private static void getMobile() {
            for(String mobileName: mobile)
                    System.out.println(mobileName);
        }
        private static void getTv() {
            for(String tvName: tv)
                    System.out.println(tvName);
        }
        private static void getElectronics() {
            for(String electronicsName: electronics)
                    System.out.println(electronicsName);
        }

}
```

Online Shopping A - JOLS-S3-L2-1-Customer Array

```
import java.util.Scanner;

public class Source {
   public String customerArray[][] = new String[5][3];
   public void createCustomer(String[][] array) {
      this.customerArray = array;
   }
   public String[][] getCustomers() {
      for (int i = 0; i < customerArray.length; i++) {
         for (int j = 0; j < (customerArray.length - i - 1); j++) {
            int id1 = Integer.parseInt(customerArray[j][0]);
            int id2 = Integer.parseInt(customerArray[j + 1][0]);
            if (id1 > id2) {
               String temp[] = customerArray[j + 1];
               customerArray[j + 1] = customerArray[j];
               customerArray[j] = temp;
            }
         }
      }
      return customerArray;
   }
   public static void main(String args[]) {
      Scanner scanner = new Scanner(System.in);
      String inputArray[][] = new String[5][3];
      for (int i = 0; i < 5; i++) {
         for (int j = 0; j < 3; j++) {
            inputArray[i][j] = scanner.nextLine();
```

```
        }
      }
      Source obj = new Source();
      obj.createCustomer(inputArray);
      String result[][] = obj.getCustomers();
      for (String[] cust : result) {
         System.out.println(cust[0] + " " + cust[1] + " " + cust[2] + "
");
      }
      scanner.close();
   }
}
```

Online Shopping A - JOSL-S3-L2-2-Search Customers By Name

```
import java.util.Scanner;

public class Source {
   static String customerDetails[][]=new String[5][3];
   public static String[] getCustomer(String name) {
    customerDetails[0][0]="1001";
    customerDetails[0][1]="Raj";
    customerDetails[0][2]="Chennai";

    customerDetails[1][0]="1008";
    customerDetails[1][1]="Akshay";
    customerDetails[1][2]="Pune";

    customerDetails[2][0]="1002";
    customerDetails[2][1]="Simrath";
    customerDetails[2][2]="Amristar";

    customerDetails[3][0]="1204";
    customerDetails[3][1]="Gaurav";
    customerDetails[3][2]="Delhi";

    customerDetails[4][0]="1005";
    customerDetails[4][1]="Ganesh";
    customerDetails[4][2]="Chennai";

     for (String cust[] : customerDetails) {
       if (cust[1].equals(name)) {
            return cust;
         }
      }
      return null;
   }
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
```

```
      String customerName = scanner.nextLine();
      String customer[] = getCustomer(customerName);
      if (customer == null) {
         System.out.println("No Record Found");
      }
      else {
         System.out.println(customer[0] + " " + customer[1] + " " +
customer[2]);
      }
      scanner.close();
   }
}
```

Online Shopping A - JOSL-S3-L2-3-Search Customers By City

```
import java.util.*;

// Class name should be "Source",
// otherwise solution won't be accepted
public class Source {
  String customerDetails[][]=new String[5][3];
    Source()
 {
 customerDetails[0][0]="1001";
 customerDetails[0][1]="Raj";
 customerDetails[0][2]="Chennai";

 customerDetails[1][0]="1008";
 customerDetails[1][1]="Akshay";
 customerDetails[1][2]="Pune";

 customerDetails[2][0]="1002";
 customerDetails[2][1]="Simrath";
 customerDetails[2][2]="Amristar";

 customerDetails[3][0]="1204";
 customerDetails[3][1]="Gaurav";
 customerDetails[3][2]="Delhi";

 customerDetails[4][0]="1005";
 customerDetails[4][1]="Ganesh";
 customerDetails[4][2]="Chennai";
 }

 void binarySearch(String arr[][],int f,int l,String x){
     int mid=(f+l)/2;
     while(f<=l){
         if(arr[mid][2].compareTo(x)<0){
             f=mid+1;
```

```
        }else if(arr[mid][2].equals(x)){
            int temp=mid;
            int temps=mid;
            if((temps-1>=f) && arr[temps-1][2].equals(x)){
            temps=temps-1;
            while(arr[temps][2].equals(x)){
            System.out.println(arr[temps][0]+"\n"+arr[temps][1]+"\n"+a
rr[temps][2]);
            if(temps-1>=f)
            temps=temps-1;
                }
            }
            System.out.println(arr[temp][0]+"\n"+arr[temp][1]+"\n"+arr
[temp][2]);
            if(temps+1<=l && arr[temp+1].equals(x)){
                temp=temp+1;
            while(arr[temp][2].equals(x)){
            System.out.println(arr[temp][0]+"\n"+arr[temp][1]+"\n"+arr
[temp][2]);
                 temp=temp+1;
            }
            }
            break;
        }
        else{
            l=mid-1;
        }
        mid=(f+l)/2;
    }
    if(f>l){
        System.out.println("No Record Found");
    }
 }
 public static void main(String args[] ) throws Exception {
  /* Enter your code here. Read input from STDIN. Print output to
STDOUT */
  Source ob=new Source();
  Scanner sc=new Scanner(System.in);
  String c=sc.nextLine();
  Arrays.sort(ob.customerDetails,Comparator.comparing(arr->arr[2]));
  ob.binarySearch(ob.customerDetails,0,4,c);
  sc.close();
 }
}
```

Online Shopping A - JOLS-S4-L3-1- Customer and Address Class

```
import java.util.*;

class Customer {
   private int userId;
   private String emailId;
   private String password;
   private String firstName;
   private String lastName;
   private String city;
   private String gender;
   private long phoneNumber;
   private Address address;

   public Customer() {
   }

   @Override
   public String toString() {
      String result ="Customer [userId="+userId+ ", ";
      result += "emailId="+emailId + ", ";
      result +="password="+ password + ", ";
      result +="firstName="+ firstName + ", ";
      result +="lastName="+ lastName + ", ";
      result +="city="+ city +", ";
      result +="gender="+ gender +", ";
      result +="phoneNumber="+ phoneNumber +", ";
      result +="address="+ address+"]";
      return result;
   }

   public Customer(int userId, String emailId, String password, String
firstName, String lastName, String city, String gender, long
phoneNumber, Address address) {
      this.userId = userId;
      this.emailId = emailId;
      this.password = password;
      this.firstName = firstName;
      this.lastName = lastName;
      this.city = city;
      this.gender = gender;
      this.phoneNumber = phoneNumber;
      this.address = address;
   }

   public int getUserId() {
      return userId;
```

```
}

public void setUserId(int userId) {
   this.userId = userId;
}

public String getEmailId() {
   return emailId;
}

public void setEmailId(String emailId) {
   this.emailId = emailId;
}

public String getPassword() {
   return password;
}

public void setPassword(String password) {
   this.password = password;
}

public String getFirstName() {
   return firstName;
}

public void setFirstName(String firstName) {
   this.firstName = firstName;
}

public String getLastName() {
   return lastName;
}

public void setLastName(String lastName) {
   this.lastName = lastName;
}

public String getCity() {
   return city;
}

public void setCity(String city) {
   this.city = city;
}

public String getGender() {
   return gender;
```

```
    }

    public void setGender(String gender) {
        this.gender = gender;
    }

    public long getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(long phoneNumber) {
        this.phoneNumber = phoneNumber;
    }

    public Address getAddress() {
        return address;
    }

    public void setAddress(Address address) {
        this.address = address;
    }
}

class Address {
    private String city;
    private String state;
    private int zip;
    private String country;

    public Address() {
    }

    public Address(String city, String state, int zip, String country) {
        this.city = city;
        this.state = state;
        this.zip = zip;
        this.country = country;
    }

    public String getCity() {
        return city;
    }

    public void setCity(String city) {
        this.city = city;
    }

    public String getState() {
```

```
        return state;
    }

    public void setState(String state) {
        this.state = state;
    }

    public int getZip() {
        return zip;
    }

    public void setZip(int zip) {
        this.zip = zip;
    }

    public String getCountry() {
        return country;
    }

    public void setCountry(String country) {
        this.country = country;
    }

    @Override
    public String toString() {
        String result ="Address [city="+ city + ", ";
        result +="state="+ state + ", ";
        result +="zip="+ zip + ", ";
        result +="country="+ country+"]";
        return result;
    }
}

public class Source {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int userId = Integer.parseInt(scanner.next());
        String emailId = scanner.next();
        String password = scanner.next();
        String firstName = scanner.next();
        String lastName = scanner.next();
        String city = scanner.next();
        String gender = scanner.next();
        long phoneNumber = Long.parseLong(scanner.next());
        String state = scanner.next();
        int zip = Integer.parseInt(scanner.next());
        String country = scanner.next();
        Address address = new Address(city, state, zip, country);
```

```
        Customer customer = new Customer(userId, emailId, password,
firstName, lastName, city, gender, phoneNumber, address);
        System.out.println(customer);
        scanner.close();
    }
}
```

Online Shopping A - JOSL-S4-L3-2 Admin and Product Classes

```
class Admin {
    private int adminId;
    private String emailId;
    private String firstName;
    private String password;

    public int getAdminId() {
        return adminId;
    }

    public void setAdminId(int adminId){
        this.adminId=adminId;
    }

    public String getEmailId() {
        return emailId;
    }

    public void setEmailId(String emailId) {
        this.emailId = emailId;
    }

    public String getFirstName() {
        return firstName;
    }

    public void setFirstName(String firstName) {
        this.firstName = firstName;
    }

    public String getPassword() {
        return password;
    }
```

```
   public void setPassword(String password) {
      this.password = password;
   }

   public Admin(){
   }

   public Admin(int adminId, String emailId, String firstName, String
password) {
      this.adminId=adminId;
      this.emailId = emailId;
      this.firstName = firstName;
      this.password = password;
   }
   @Override
   public String toString() {
      return "Admin [adminId=" + adminId + ", emailId=" + emailId +",
firstName=" + firstName +", password=" + password+"]";
   }
}

class Product {
   private int productId;
   private String productName;
   private String productDescription;
   private float price;
   private int quantity;
   private String category;

   public int getProductId() {
      return productId;
   }

   public void setProductId(int productId) {
      this.productId = productId;
   }

   public String getProductName() {
      return productName;
   }

   public void setProductName(String productName) {
      this.productName = productName;
   }

   public String getProductDescription() {
      return productDescription;
   }
```

```
    public void setProductDescription(String productDescription) {
        this.productDescription = productDescription;
    }

    public float getPrice() {
        return price;
    }

    public void setPrice(float price) {
        this.price = price;
    }

    public int getQuantity() {
        return quantity;
    }

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

    public String getCategory() {
        return category;
    }

    public void setCategory(String category) {
        this.category = category;
    }

    public Product() {
    }

    public Product(int productId, String productName, String
productDescription, float price, int quantity, String category) {
        this.productId = productId;
        this.productName = productName;
        this.productDescription = productDescription;
        this.price = price;
        this.quantity = quantity;
        this.category = category;
    }

    @Override
    public String toString() {
        return "Product [productId=" + productId +", productName=" +
productName +", productDescription=" + productDescription +", price=" +
price + ", quantity=" + quantity + ", Category=" + category+"]";
    }
```

```
}
public class Source{
    public static void main(String[] args){

    }
}
```

Online Shopping A - JOSL-S4-L4-1 Product-Admin Interface -Class

```
class ProductNotFoundException extends RuntimeException{
   ProductNotFoundException(){
       super();
   }
}
class Product{
   private int productId;
   private String productName;
   private String productDesc;
   private double price;
   private int quantity;
   private String category;

   Product(){

   }
   Product(int productId, String productName, String productDesc,
double price, int quantity, String category){
       this.productId = productId;
       this.productName = productName;
       this.productDesc = productDesc;
       this.price = price;
       this.quantity = quantity;
       this.category = category;
   }
   public int getProductId(){
       return this.productId;
   }
public String getProductName(){
       return this.productName;
   }
   public String getProductDesc(){
```

```
        return this.productDesc;
    }
    public double getPrice(){
        return this.price;
    }
    public int getQuantity(){
        return this.quantity;
    }
    public String getCategory(){
        return this.category;
    }
    public void setProductId(int productId){
        this.productId = productId;
    }
    public void setProductName(String productName){
        this.productName = productName;
    }
    public void setProductDesc(String productDesc){
        this.productDesc = productDesc;
    }
public void setPrice(double price){
        this.price = price;
    }
    public void setQuantity(int quantity){
        this.quantity = quantity;
    }
    public void setCategory(String category){
        this.category = category;
    }
    public String toString(){
        return String.format("Product [productId=%d, productName=%s,
productDescription=%s, price=%s, quantity=%s,
Category=%s]",productId,productName,productDesc,price,quantity,category)
;
    }
}
interface AdminService{
    void createProduct(Product product);
    Product updateProduct(Product product);
    void deleteProduct(int id);
   Product searchProduct(int id);
   Product[] getProducts();
}
class AdminServiceImpl implements AdminService{
    public static Product productArray[] = new Product[5];
    public static int count = 0;

    public void createProduct(Product product){
```

```
        productArray[count++] = product;
    }
    public Product updateProduct(Product product) throws
ProductNotFoundException{
        for(int i=0; i<5; i++){
            if(product.getProductId() ==
productArray[i].getProductId()){
                productArray[i] = product;
                return productArray[i];
            }
        }
throw new ProductNotFoundException();
    }
    public void deleteProduct(int id) throws ProductNotFoundException{
        for(int i=0; i<5; i++){
            if(productArray[i].getProductId()==id){
                productArray[i] = null;
            }
        }
        throw new ProductNotFoundException();
    }
    public Product searchProduct(int id){
        for(int i=0; i<5; i++){
            if(productArray[i].getProductId()==id){
                return productArray[i];
            }
        }
        throw new ProductNotFoundException();
    }
    public Product[] getProducts(){
        return productArray;
    }
}
public class Source{
    public static void main(String[] args){

    }

}
```