1)

// You are using Java

import java.util.\*;

import java.util.ArrayList;

class Cart

{

public List<Item> items;

public Cart()

{

items=new ArrayList<>();

}

public void addItem(Item item)

{

items.add(item);

}

public void removeItem(Item item)

{

items.remove(item);

}

public double calculateTotalPrice()

{

double tot=0.0;

for(Item item:items)

{

tot+=item.getPrice();

}

return tot;

}

public List<Item> getItems()

{

return items;

}

}

class Item

{

public String name;

public double price;

public Item(String name,double price)

{

this.name=name;

this.price=price;

}

public String getName()

{

return name;

}

public double getPrice()

{

return price;

}

}

public class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

sc.nextLine();

Cart cart=new Cart();

for(int i=0;i<n;i++)

{

String name=sc.nextLine();

double price=sc.nextDouble();

sc.nextLine();

Item item=new Item(name,price);

cart.addItem(item);

}

// double tot=cart.calc\_Total();

int nr=sc.nextInt();

sc.nextLine();

for(int i=0;i<nr;i++)

{

String nam=sc.nextLine();

for(Item item:cart.getItems())

{

if(item.getName().equals(nam))

{

cart.removeItem(item);

break;

}

}

}

double tot=cart.calculateTotalPrice();

System.out.println("Total Price after removing items: $"+tot);

}

}

2)

// You are using Java

import java.util.\*;

class InsufficientBalanceException extends Exception

{

public InsufficientBalanceException()

{

super();

}

}

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

try

{

double a=sc.nextDouble();

double b=sc.nextDouble();

if(b>a)

{

throw new InsufficientBalanceException();

}

else

{

System.out.println("Transaction successful.");

}

}

catch(InsufficientBalanceException e)

{

System.out.println("Insufficient balance: Insufficient balance to perform the withdrawal.");

}

}

}

3)

import java.sql.\*;

import java.util.Scanner;

class Main

{

public static void main(String args[]) throws Exception

{

Scanner sc=new Scanner(System.in);

String DB\_URL="jdbc:mysql://localhost/ri\_db";

String USER="test";

String PWD="test123";

String sql;

Class.forName("com.mysql.jdbc.Driver");

Connection con=DriverManager.getConnection(DB\_URL,USER,PWD);

PreparedStatement st;

int n=sc.nextInt();

if(n==1)

{

sql="INSERT INTO customer values (?,?,?,?,?);";

st=con.prepareStatement(sql);

st.setInt(1,sc.nextInt());

sc.nextLine();

st.setString(2,sc.nextLine());

st.setString(3,sc.nextLine());

st.setString(4,sc.nextLine());

st.setString(5,sc.nextLine());

st.executeUpdate();

System.out.println("Customer record inserted successfully.");

}

else if(n==2)

{

sql="UPDATE customer SET name=?, contact\_information=?, subscription\_plan=?, payment\_history=? WHERE customer\_id=?";

st=con.prepareStatement(sql);

st.setInt(5,sc.nextInt());

sc.nextLine();

st.setString(1,sc.nextLine());

st.setString(2,sc.nextLine());

st.setString(3,sc.nextLine());

st.setString(4,sc.nextLine());

st.executeUpdate();

System.out.println("Customer record updated successfully.");

}

else if(n>3)

{

System.out.println("Invalid operation number. Please try again.");

return;

}

sql="Select \* from customer";

st=con.prepareStatement(sql);

ResultSet rs=st.executeQuery(sql);

while(rs.next())

{

System.out.println("ID: "+rs.getInt(1)+", Name: "+rs.getString(2)+", Contact Information: "+rs.getString(3)+", Subscription Plan: "+rs.getString(4)+", Payment History: "+rs.getString(5));

}

st.close();

con.close();

}

}

4)

// You are using Java

import java.util.\*;

import java.sql.\*;

class Department

{

public static void main(String[] args) throws Exception

{

String db\_url="jdbc:mysql://localhost/ri\_db";

String username="test";

String password="test123";

try

{

Class.forName("com.mysql.jdbc.Driver");

Connection con=DriverManager.getConnection(db\_url,username,password);

Statement stmt=con.createStatement();

String query="select lower(department\_Name) from department";

ResultSet rs=stmt.executeQuery(query);

while(rs.next())

{

System.out.print(rs.getString(1)+"\n");

}

}

catch(Exception e)

{

System.out.println(e);

}

}

}