Problem 1:

import java.util.Scanner;  
public class Person{  
 String name;  
 public int age=18;// default age declared and initialised  
 public String printing(String n,int a){ //method created to print name and aage  
 this.name=n;  
 age=a;  
 System.*out*.println("Person name:"+ name+" "+"Person age:"+ age);  
 return name;  
 }  
 public static void main(String[] args){  
 Scanner s=new Scanner(System.*in*);  
 String name1;  
 int age1;  
 System.*out*.println("Enter the name and age");  
 name1=s.nextLine();  
 age1=s.nextInt();  
 Person m=new Person();  
 System.*out*.println("Default age is: "+ m.age);  
 m.printing(name1,age1);// person object is passed value  
 }  
}

Output:

guvi

23

Default age is: 18

Person name:guvi Person age:23

Problem 2:

Product class

import java.util.Scanner;  
public class Product {  
 public int sum;  
 public Product() {  
  
 }  
  
 public Product(int[] id, int[] price, int[] quantity) { // paratmeter constructor  
 int[] ptotal = new int[5];  
 for (int i = 0; i < 5; i++) {  
 ptotal[i] = price[i] \* quantity[i];  
 }  
 for (int j = 0; j < 5; j++) {  
 System.*out*.println("Pid: " + id[j] + "Total:" + ptotal[j]);  
 }  
 // int sum = 0;  
 for (int i = 0; i < 5; i++) {  
 sum = sum + ptotal[i];  
 }  
   
 }  
}

Purchase class:

Impor java.util.Scanner;

public class Purchase {  
 public int highprice(int[] p1){ //this method is used calcualte the highest value among product price  
 int max=Integer.*MIN\_VALUE*;  
 for(int i=0;i<5;i++){  
 if(p1[i]>max){  
 max=p1[i];  
 }  
 }  
 return max;  
 }  
 public static void main(String[] args){  
 int[] pid= new int[5];  
 int[] price=new int[5];  
 int[] bought=new int[5];  
 Scanner s=new Scanner(System.*in*);  
 //get the product id  
 System.*out*.println("Enter the Product ID");  
 for(int i=0;i<5;i++){  
 pid[i]=s.nextInt();  
 }  
 //get the product price  
 System.*out*.println("Enter the Product Price");  
 for(int j=0;j<5;j++){  
 price[j]=s.nextInt();  
 }  
 System.*out*.println("Entered the Product ID and Price");  
 for(int i=0;i<5;i++){  
 System.*out*.println(pid[i]+" "+price[i]);  
 }  
 Purchase m=new Purchase();  
 int max=m.highprice(price);// method to fing highest product value  
 //System.out.println("Highest value is:"+max);  
 //for loop to find the product id  
 for(int i=0;i<price.length;i++){  
 if(price[i]==max){  
 System.*out*.println("The Pid and Price is: "+pid[i]+" "+price[i]);  
 }  
 }  
 System.*out*.println("Enter the quantity of each product");  
 for(int i=0;i<5;i++){  
 bought[i]=s.nextInt();  
 }  
 Product p=new Product(pid,price,bought);// calling constructor  
 System.*out*.println("Total purchase amount "+p.sum);  
 }  
}

Output:

Enter the Product ID

1120

1001

2315

456

900

Enter the Product Price

120

34

56

233

145

Entered the Product ID and Price

1120 120

1001 34

2315 56

456 233

900 145

The Pid and Price is: 456 233

Enter the quantity of each product

2

3

1

2

1

Pid: 1120Total:240

Pid: 1001Total:102

Pid: 2315Total:56

Pid: 456Total:466

Pid: 900Total:145

Total purchase amount 1009

Problem 3:

Account class

import java.util.Scanner;  
public class Account{  
 public int balance=100000; //data member balance created  
 public Account(){ //default constructor  
  
 }  
 public Account(String action,int amt){ //parameterised constructor  
 //if is used to check whether deposit or withdraw option is choosen  
 if(action.equals("deposit")){  
 this.balance=balance+amt; //deposit is calculated  
 }else if(action.equals("withdraw")){  
 this.balance=balance-amt; //withdraw is calculated  
 }else{  
 this.balance=balance;  
 }  
 System.*out*.println("The Total Balance"+this.balance);  
 }  
}

Customer class

import java.util.Scanner;  
public class Customer{  
 public static void main(String[] args){  
 String action;  
 int amt=0;  
 //int balance=100000;// intital balance is 1lakh  
 Scanner s=new Scanner(System.*in*);  
 System.*out*.println("Enter the action to be performed: withdraw or deposit or balance");  
 action=s.nextLine();  
 //if loop is to check whether balance is alone checked or amt is going to get deposited or withdraw  
 if(action.equals("balance")){  
 System.*out*.println("wait for a moment");  
 }else{  
 System.*out*.println("Enter the amount");  
 amt=s.nextInt();  
 System.*out*.println("the amount entered is: "+amt);  
 }  
 // calling the constructor  
 Account a=new Account(action,amt);//constructor with two argument called  
  
 }  
}

Output

Case 1:

Enter the action to be performed: withdraw or deposit or balance

balance

wait for a moment

The Total Balance100000

Case 2:

Enter the action to be performed: withdraw or deposit or balance

withdraw

Enter the amount

2335

the amount entered is: 2335

The Total Balance97665

Case 3:

Enter the action to be performed: withdraw or deposit or balance

deposit

Enter the amount

3765

the amount entered is: 3765

The Total Balance103765

Problem 4:

Person1 class (for problem1 person class created so name changed as person1)

public class Person1{ //this the parent class with attributes  
 public String name;  
 public int age;  
}

Employee class:

import java.util.Scanner;  
public class Employee extends Person1{ //Employee is the child of person1 class  
 public Employee(){  
  
 }  
 public Employee(String name,int age){ //parameterised constructor  
 super.name=name; // using parent class attributes using super keyword  
 super.age=age;  
 System.*out*.println("Name: "+super.name+" "+"Age: "+super.age);  
 }  
 public static void main(String[] args){  
 Scanner s=new Scanner(System.*in*);  
 String n;  
 int a;  
 System.*out*.println("Enter the name and age");  
 n=s.nextLine();  
 a=s.nextInt();  
 Employee e=new Employee(n,a);  
 }  
}

Output:

Enter the name and age

Guvi

45

Name: Guvi Age: 45