LAB 2:

2.1:

**package** com.lab.practice;

**public** **class** Format {

**public** **static** **void** main(String[] args) {

System.***out***.println("Personal Details:");

System.***out***.println("---------------");

System.***out***.println("First Name: Divya");

System.***out***.println("Last Name: Bharathi");

System.***out***.println("Gender: F");

System.***out***.println("Age: 20");

System.***out***.println("Weight: 85.55");

}

}

2.2:

**package** com.lab.practice;

**import** java.util.Scanner;

**public** **class** Number {

**static** **int** *num*;

**public** **static** **void** main(String[] args) {

System.***out***.println("Enter a number");

Scanner s=**new** Scanner(System.***in***);

*num*=s.nextInt();

**if**(*num*>=0)

{

System.***out***.println("Positive Number");

}

**else**

{

System.***out***.println("Negative Number");

}

}

}

2.3:

**package** com.lab.practice;

**public** **class** Person {

**private** String firstName;

**private** String lastName;

**private** **char** gender;

**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** **char** getGender() {

**return** gender;

}

**public** **void** setGender(**char** gender) {

**this**.gender = gender;

}

**public** Person(String firstName, String lastName, **char** gender) {

**super**();

**this**.firstName = firstName;

**this**.lastName = lastName;

**this**.gender = gender;

}

**public** Person() {

**super**();

}

}

Personmain file

**package** com.lab.practice;

**public** **class** PersonMain {

**public** **static** **void** main(String[] args) {

Person per1=**new** Person("Divya","Bharathi",'F');

System.***out***.println("Personal Details:");

System.***out***.println("---------------");

System.***out***.println("FirstName:"+per1.getFirstName());

System.***out***.println("LastName:"+per1.getLastName());

System.***out***.println("Gender"+per1.getGender());

}

}

2.4:

**package** com.lab.practice;

**public** **class** Person {

**private** String firstName;

**private** String lastName;

**private** **char** gender;

**private** **double** phoneNumber;

**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** **char** getGender() {

**return** gender;

}

**public** **void** setGender(**char** gender) {

**this**.gender = gender;

}

**public** **double** getPhoneNumber() {

**return** phoneNumber;

}

**public** **void** setPhoneNumber(**double** phoneNumber) {

**this**.phoneNumber = phoneNumber;

}

**public** Person(String string, String string2) {

**super**();

}

**public** Person(String firstName, String lastName, **char** gender) {

**super**();

**this**.firstName = firstName;

**this**.lastName = lastName;

**this**.gender = gender;

}

}

Personmain.java

**package** com.lab.practice;

**import** java.util.Scanner;

**public** **class** PersonMain {

**private** **static** **long** *num*;

**public** **static** **void** main(String[] args) {

System.***out***.println("Enter Phone Number");

Scanner s=**new** Scanner(System.***in***);

*num*=s.nextLong();

Person per1=**new** Person("Divya","Bharathi",'F');

System.***out***.println("Personal Details:");

System.***out***.println("---------------");

System.***out***.println("FirstName:"+per1.getFirstName());

System.***out***.println("LastName:"+per1.getLastName());

System.***out***.println("Gender:"+per1.getGender());

System.***out***.println("PhoneNumber:"+*num*);

}

}

2.5:

3.3:

**package** com.lab.practice;

**import** java.time.LocalDate;

**import** java.time.Period;

**import** java.time.format.DateTimeFormatter;

**import** java.util.Scanner;

**public** **class** DateDuration {

**public** **static** **void** main(String args[])

{

System.***out***.print("Enter date1 in dd/MM/yyyy format:");

DateTimeFormatter formatter = DateTimeFormatter.*ofPattern*("dd/MM/yyyy");

Scanner s1 = **new** Scanner(System.***in***);

String date1 = s1.nextLine();

LocalDate start=LocalDate.*parse*(date1,formatter);

LocalDate end=LocalDate.*now*();

Period period = start.until(end);

System.***out***.println("Days:"+ period.getDays());

System.***out***.println("Months:"+period.getMonths());

System.***out***.println("Years:"+ period.getYears());

}

}

3.4:

**package** com.lab.practice;

**import** java.time.LocalDate;

**import** java.time.Period;

**import** java.time.format.DateTimeFormatter;

**import** java.util.Scanner;

**public** **class** DateDuration {

**public** **static** **void** main(String args[])

{

System.***out***.print("Enter date1 in dd/MM/yyyy format:");

DateTimeFormatter formatter = DateTimeFormatter.*ofPattern*("dd/MM/yyyy");

Scanner s1 = **new** Scanner(System.***in***);

String date1 = s1.nextLine();

System.***out***.print("Enter date2 in dd/MM/yyyy format:");

Scanner s2 = **new** Scanner(System.***in***);

String date2 = s2.nextLine();

System.***out***.println(date1);

System.***out***.println(date2);

LocalDate start=LocalDate.*parse*(date1,formatter);

LocalDate end=LocalDate.*parse*(date2,formatter);

Period period = start.until(end);

System.***out***.println("Days:"+ period.getDays());

System.***out***.println("Months:"+period.getMonths());

System.***out***.println("Years:"+ period.getYears());

}

}

3.5:

**package** com.lab.practice;

**import** java.time.LocalDate;

**import** java.time.format.DateTimeFormatter;

**import** java.util.Scanner;

**public** **class** DateDuration {

**public** **static** **void** main(String args[])

{

System.***out***.print("Enter date1 in dd/MM/yyyy format:");

DateTimeFormatter formatter = DateTimeFormatter.*ofPattern*("dd/MM/yyyy");

Scanner s1 = **new** Scanner(System.***in***);

String date1 = s1.nextLine();

LocalDate start=LocalDate.*parse*(date1,formatter);

System.***out***.println("enter months");

Integer input2=s1.nextInt();

LocalDate end=start.plusMonths(input2);

System.***out***.println("enter years");

Integer input3=s1.nextInt();

LocalDate end1=end.plusYears(input3);

System.***out***.println("purchase date is:"+start);

System.***out***.println("Expire date is"+ end1);

}

}

3.6:

**package** com.lab.practice;

**import** java.time.ZoneId;

**import** java.time.ZonedDateTime;

**public** **class** DateDuration {

**public** **static** **void** main(String args[])

{

ZonedDateTime currentTime= ZonedDateTime.*now*();

ZonedDateTime currentTimeInNewYork =ZonedDateTime.*now*(ZoneId.*of*("America/New\_York"));

System.***out***.println(currentTime );

System.***out***.println(currentTimeInNewYork);

}

}

3.7:

**package** com.lab.practice;

**import** java.util.Scanner;

**public** **class** Jobseeker {

**public** **static** **void** main(String[] args)

{

**int** i;

System.***out***.println("enter userName");

Scanner sc = **new** Scanner (System.***in***);

String str= sc.nextLine();

**char** arr[]=str.toCharArray();

i=str.length()-1;

**if**(arr[i]=='b'&&arr[i-1]=='o'&&arr[i-2]=='j'&&arr[i-3]=='\_'&&(i+1-8>0) )

System.***out***.println("Valid name");

**else**

System.***out***.println("Not valid name");

}

}

3.8:

**package** com.lab.practice;

**import** java.util.Arrays;

**import** java.util.Scanner;

**public** **class** NameSort {

**public** **static** **void** main(String args[])

{

**int** i,n;

System.***out***.println("Enter the String ");

Scanner s=**new** Scanner(System.***in***);

String str=s.nextLine();

**char** arr[]=str.toCharArray();

Arrays.*sort*(arr);

System.***out***.println(arr);

n=arr.length;

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

{

**if**(i<n/2)

{

arr[i]=Character.*toUpperCase*(arr[i]);

}

**else**

{

arr[i]=arr[i];

}

}

System.***out***.println(arr);

}

}

4.1:

Account.java

**package** com.lab.practice;

**public** **class** Account {

**private** **long** accNum;

**private** **double** balance;

**private** PersonAcc accHolder;

**public** **long** getAccNum() {

**return** accNum;

}

**public** **void** setAccNum(**long** accNum) {

**this**.accNum = accNum;

}

**public** **double** getBalance() {

**return** balance;

}

**public** **void** setBalance(**double** balance) {

**this**.balance = balance;

}

**public** PersonAcc getAccHolder() {

**return** accHolder;

}

**public** **void** setAccHolder(PersonAcc accHolder) {

**this**.accHolder = accHolder;

}

**public** Account(**long** accNum, **double** balance, PersonAcc accHolder) {

**super**();

**this**.accNum = accNum;

**this**.balance = balance;

**this**.accHolder = accHolder;

}

**public** Account() {

}

**public** **void** deposit(**double** bal)

{

**this**.balance=bal;

balance=bal+balance;

}

**public** **void** withdraw(**double** bal)

{

**if**(this.balance-bal>=500)

{

**this**.balance=this.balance-bal;

}

**else**

{

System.***out***.println("not allowed to witdraw");

}

}

**public** **double** getBalancee()

{

**return** balance;

}

@Override

**public** String toString() {

**return** "Account [accNum=" + accNum + ", balance=" + balance + ", accHolder=" + accHolder + "]";

}

}

PersonAcc.java

**package** com.lab.practice;

**public** **class** PersonAcc {

**private** String name;

**private** **float** age;

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **float** getAge() {

**return** age;

}

**public** **void** setAge(**float** age) {

**this**.age = age;

}

**public** PersonAcc(String name, **float** age) {

**super**();

**this**.name = name;

**this**.age = age;

}

**public** PersonAcc() {

**super**();

// **TODO** Auto-generated constructor stub

}

@Override

**public** String toString() {

**return** "PersonAcc [name=" + name + ", age=" + age + "]";

}

}

PersonAccMain.java

**package** com.lab.practice;

**import** java.util.Random;

**public** **class** PersonAccMain {

**public** **static** **void** main(String[] args) {

PersonAcc per1=**new** PersonAcc("Smith",20f);

PersonAcc per2=**new** PersonAcc("Kathy",21f);

Random rand = **new** Random();

**int** x = rand.nextInt(10000)+1;

**int** y = rand.nextInt(10000)+1;

Account a1= **new** Account((**long**)x,(**double**)2000,per1);

Account a2= **new** Account((**long**)y,(**double**)3000,per2);

System.***out***.println(a1);

System.***out***.println(a2);

a1.deposit((**double**)2000);

a2.withdraw((**double**)2000);

System.***out***.println(a1);

System.***out***.println(a2);

}

}

4.2:

7.1:

package labprog;

import java.util.ArrayList;

import java.util.Collections;

import java.util.List;

import java.util.Scanner;

public class ArrayListDemo {

public static void main(String args[])

{

int i;

int p= 0;

StringBuilder sb=null;

System.out.println("enter the elements u want to enter");

Scanner input=new Scanner(System.in);

int a=input.nextInt();

List<Integer> arr=new ArrayList<Integer>();

System.out.println("enter the elements");

for(i=0;i<a;i++)

{

Scanner input1=new Scanner(System.in);

int a1=input1.nextInt();

arr.add(a1);

}

System.out.println("entered array"+arr);

for(int j: arr)

{

String str=Integer.toString(j);

sb=new StringBuilder(str);

sb.reverse();

String s=new String(sb);

Integer n= Integer.parseInt(s);

arr.set(p,n);

p++;

}

System.out.println("reversed array"+arr);

Collections.sort(arr,Collections.reverseOrder());

System.out.println("reversed sorted array"+arr);

}

}

7.2:

7.3:

package labprog;

import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

public class RemoveElem {

public static void main(String args[])

{

int i,j;

List<Integer> arr=new ArrayList<Integer>();

System.out.println("enter the elements u want to enter list 1");

Scanner input=new Scanner(System.in);

int a=input.nextInt();

System.out.println("enter the elements in list 1");

for(i=0;i<a;i++)

{

Scanner input1=new Scanner(System.in);

int a1=input1.nextInt();

arr.add(a1);

}

List<Integer> arr2=new ArrayList<Integer>();

System.out.println("enter the elements u want to enter list 2");

Scanner input2=new Scanner(System.in);

int a2=input2.nextInt();

System.out.println("enter the elements in list 2");

for(i=0;i<a;i++)

{

Scanner input3=new Scanner(System.in);

int a3=input3.nextInt();

arr2.add(a3);

}

System.out.println("original array1 :"+arr);

System.out.println("original array2 :"+arr2);

arr.removeAll(arr2);

System.out.println("Elements left in list 1"+arr);

}

}

7.4:

**package** labprog;

**import** java.util.HashMap;

**import** java.util.Scanner;

**public** **class** SquareHashmap {

**static** **int** getSquare(**int** a)

{

**int** square;

square=a\*a;

**return** square;

}

**public** **static** **void** main(String args[])

{

**int** i;

HashMap<Integer,Integer> has=**new** HashMap<Integer,Integer>();

System.***out***.println("enter the elements u want to enter");

Scanner input=**new** Scanner(System.***in***);

**int** a=input.nextInt();

System.***out***.println("enter the elements");

**for**(i=0;i<a;i++)

{

Scanner input1=**new** Scanner(System.***in***);

**int** a1=input1.nextInt();

**int** sq= *getSquare*(a1);

has.put(a1,sq);

}

System.***out***.println("square with their key=values"+has);

}

}

7.5:

**package** labprog;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.List;

**import** java.util.Scanner;

**public** **class** SortString {

**public** **static** **void** main(String[] args)

{

**int** i;

System.***out***.println("enter the Strings u want to enter");

Scanner input=**new** Scanner(System.***in***);

**int** a=input.nextInt();

List<String> arr=**new** ArrayList<String>();

System.***out***.println("enter the elements");

**for**(i=0;i<a;i++)

{

Scanner input1=**new** Scanner(System.***in***);

String a1=input1.next();

arr.add(a1);

}

System.***out***.println("original entered String :"+arr);

Collections.*sort*(arr, Collections.*reverseOrder*());

**for**(String j:arr)

{

System.***out***.println(j);

}

}

}

7.6: