Lab 2: Language Fundamentals, Classes and Objects

1).package vjit;

public class PersonExample {

public static void main(String[] args) {

System.out.println("First Name: Divya\nLast Name: Bharathi"

+"\nGender: F\nAge: 20\nWeight: 85.55");

}

}

...

First Name: Divya

Last Name: Bharathi

Gender: F

Age: 20

Weight: 85.55

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2).

package vjit;

import java.util.Scanner;

public class PersonExample {

public static void main(String[] args) {

/\*System.out.println("First Name: Divya\nLast Name: Bharathi"

+"\nGender: F\nAge: 20\nWeight: 85.55");

\*/

Scanner sc = new Scanner(System.in);

int num = sc.nextInt();

if(num<0)

System.out.println("Negative");

else

System.out.println("Positive");

}

}

...

1

Positive

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3).

package vjit;

public class PersonMain {

public static void main(String[] args) {

PersonDetails p=new PersonDetails("Vidya","Bharathi",'M');

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p.getFirstName());

System.out.println("lastname :"+p.getLastName());

System.out.println("gender :"+p.getGender());

PersonDetails p1=new PersonDetails("Bhavana","Reddy",'F');

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p1.getFirstName());

System.out.println("lastname :"+p1.getLastName());

System.out.println("gender :"+p1.getGender());

PersonDetails p2=new PersonDetails("Anuhya","Reddy",'F');

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p2.getFirstName());

System.out.println("lastname :"+p2.getLastName());

System.out.println("gender :"+p2.getGender());

}

}

...

PersonDetails Details

------------------------

Firstname :Vidya

lastname :Bharathi

gender :M

PersonDetails Details

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Firstname :Bhavana

lastname :Reddy

gender :F

PersonDetails Details

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Firstname :Anuhya

lastname :Reddy

gender :F

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4).package vjit;

public class PersonMain {

public static void main(String[] args) {

PersonDetails p=new PersonDetails("Vidya","Bharathi",'f');

System.out.println("PersonDetails Details");

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

System.out.println("Firstname :"+p.getFirstName());

System.out.println("lastname :"+p.getLastName());

System.out.println("gender :"+p.getGender());

System.out.println("Number :"+p.getNumber());

PersonDetails p1=new PersonDetails("Bhavana","Reddy",'F');

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p1.getFirstName());

System.out.println("lastname :"+p1.getLastName());

System.out.println("gender :"+p1.getGender());

System.out.println("Number :"+p.getNumber());

PersonDetails p2=new PersonDetails("Anuhya","Reddy",'F');

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p2.getFirstName());

System.out.println("lastname :"+p2.getLastName());

System.out.println("gender :"+p2.getGender());

System.out.println("Number :"+p.getNumber());

}

}

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5).package vjit;

public class PersonMain {

enum genderSelection{

MALE,

FEMALE

}

public static void main(String[] args) {

/\*PersonDetails p=new PersonDetails("Bhavana","Reddy","FEMALE");

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p.getFirstName());

System.out.println("lastname :"+p.getLastName());

System.out.println("gender :"+p.getGender());

System.out.println("Number :"+p.getNumber());

PersonDetails p1=new PersonDetails("Anuhya","Reddy","FEMALE");

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p1.getFirstName());

System.out.println("lastname :"+p1.getLastName());

System.out.println("gender :"+p1.getGender());

System.out.println("Number :"+p1.getNumber());

PersonDetails p2=new PersonDetails("Divya","Bharathi","FEMALE");

System.out.println("PersonDetails Details");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("Firstname :"+p2.getFirstName());

System.out.println("lastname :"+p2.getLastName());

System.out.println("gender :"+p2.getGender());

System.out.println("Number :"+p1.getNumber());\*/

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

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

String fname=sc.nextLine();

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

String lname=sc.nextLine();

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

String gender=sc.nextLine();

System.***out***.println("Enter Phone number:");

String phoneno=sc.nextLine();

Person1 p2=**new** Person1(fname,lname,gender,phoneno);

System.***out***.println("First Name:"+p2.getFirstname());

System.***out***.println("Last Name:"+p2.getLastname());

**if**(gender.equalsIgnoreCase(gen.***M***.toString())){

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

}

**else** **if**(gender.equalsIgnoreCase(gen.***F***.toString())){

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

}

**else**{

System.***out***.println("Gender Not Accepted");

}

System.***out***.println("Phone no:"+p2.getPhoneno());

sc.close();

}

}

Enter First Name:

Vidya

Enter Last Name:

Bharathi

Enter Gender:

m

Enter Phone number:

1234567890

First Name:Vidya

Last Name:Bharathi

Gender : m

Phone no:1234567890

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Lab 3: Exploring Basic Java Class Libraries

1).package vjit;

import java.util.\*;

public class String\_Op {

public void Operation(String s1)

{

s1=s1+s1;

System.out.println("Added String is:"+s1);

}

public String OddReplace(String s1) {

String s2="";

for(int i=0;i<s1.length();i++)

{

if((i+1)%2!=0)

s2=s2+'#';

else

s2=s2+s1.charAt(i);

}

return s2;

}

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

String s=sc.nextLine();

String\_Op o=new String\_Op();

o.Operation(s);

String var1=o.OddReplace(s);

System.out.println(var1);

}

}

nandini

Added String is:nandininandini

#a#d#n#

--------------------------------------------------------------------------------------------------------

2)

import java.util.Arrays;

import java.util.Scanner;

public class Alphabeticalorder {

public boolean isAlphabeticalOrder(String str){

int len=str.length();

char ch[]=str.toCharArray();

Arrays.sort(ch);

for(int i=0;i<len;i++){

if(ch[i]!=str.charAt(i)){

return false;

}

}

return true;

}

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

String s1=sc.nextLine();

Alphabeticalorder a=new Alphabeticalorder();

boolean s=a.isAlphabeticalOrder(s1);

System.out.println(s);

sc.close();

}

}Output: -

ant

Yes

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3).package vjit;

import java.time.\*;

public class DateDuration {

public void duration()

{

Scanner sc=new Scanner(System.in);

String dob=sc.next();

LocalDate pdate = LocalDate.of(dob);

LocalDate now = LocalDate.now();

Period dur = Period.between(pdate, now);

System.out.printf("\nDuration is %d years, %d months and %d days old\n\n",dur.getYears(), dur.getMonths(), dur.getDays());

}

public static void main(String[] args)

{

DateDuration d = new DateDuration();

d.duration();

}

}

outPut:-

1999-05-02

Duration is 20 years, 9 months and 5 days old

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4).package vjit;

import java.time.\*;

import java.time.temporal.\*;

public class DurationLocal {

public void localdur()

{

LocalDate pdate = LocalDate.of(2014,12,11);

LocalDate after= LocalDate.of(2016, 03, 18);

/\*return ChronoUnit.DAYS.between(pdate, after);\*/

Period dur = Period.between(pdate, after);

System.out.printf("\nDuration is %d years, %d months and %d days old\n\n",dur.getYears(), dur.getMonths(), dur.getDays());

}

public static void main(String[] args)

{

DurationLocal d = new DurationLocal();

d.localdur();

}

}

outPut:-

1999-06-03

2020-02-07

Duration is 20 years, 8 months and 4 days old

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7).package vjit;

import java.util.Scanner;

public class Person {

public String getFullName(String firstName,String lastname){

String fullname=firstName+lastname;

return fullname;

}

public static void main(String[] args) {

//Person p=new Person("Anuhya","Reddy",'F');

Scanner sc=new Scanner(System.in);

Person P=new Person();

String firstName=sc.nextLine();

String lastName=sc.nextLine();

String result=P.getFullName(firstName,lastName);

System.out.println(result);

sc.close();

}

}

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Lab 4: Inheritance and Polymorphism

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1).package vjit;

public class Account {

static long count;

private long accNum;

protected double balance;

private String name;

private float age;

Person accHolder;

Account(long accNum,double balance,Person P)

{

this.accNum=accNum;

this.balance=balance;

this.accHolder=P;

}

Account(long accNum,double balance,String name,float age)

{

this.accNum=accNum;

this.balance=balance;

this.name=name;

this.age=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 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;

}

void deposit(double d)

{

this.balance=balance+d;

}

void withdraw(double d)

{

this.balance=balance-d;

}

public static void main(String[] args)

{

Account s=new Account(count++,2000.0,"smith",22.0f);

Account k=new Account(count++,3000.0,"kathy",22.0f);

s.deposit(2000);

k.withdraw(2000);

System.out.println("smith:"+s.getBalance());

System.out.println("kathy:"+k.getBalance());

}

}

----------------------

OUT PUT: -

smith:4000.0

kathy:1000.0

---------------------------------------------------------------------------------------------------------------

2)package vjit;

class SavingsAccount extends Account

{

final double minimumBalance=1000;

SavingsAccount(long accnum, double balance, Person p) {

super(accnum, balance, p);

}

void withdraw(double d)

{

if(this.balance>=minimumBalance)

this.balance=this.balance-d;

else

System.out.println("you didnt with draw money");

}

class CurrentAccount extends Account{

final double overdraftLimit=1000;

CurrentAccount(long accnum, double balance, Person p) {

super(accnum, balance, p);

}

void withdraw(double d)

{

if(this.balance<this.overdraftLimit)

System.out.println("Can't complete this transaction");

else

this.balance = this.balance-d;

}

}

}

public class Maintenance {

public static void main(String[] args)

{

CurrentAccount ca=new CurrentAccount();

SavingsAccount sa=new SavingsAccount();

ca.withdraw();

sa.withdraw();

}

}

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Lab 5: Abstract classes and Interfaces

i).package com.cg.eis.bean;

public class Employee {

private int id;

private String name;

private double sal;

private String designation;

private String inscheme;

/\*public Employee(int id, String name, double sal, String designation, String inscheme) {

super();

this.id = id;

this.name = name;

this.sal = sal;

this.designation = designation;

this.inscheme = inscheme;

}\*/

public int getId() {

return id;

}

public void setId(int id) {

this.id = id;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public double getSal() {

return sal;

}

public void setSal(double sal) {

this.sal = sal;

}

public String getDesignation() {

return designation;

}

public void setDesignation(String designation) {

this.designation = designation;

}

public String getInscheme() {

return inscheme;

}

public void setInscheme(String inscheme) {

this.inscheme = inscheme;

}

}

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ii).package com.cg.eis.service;

import com.cg.eis.bean.Employee;

public class Service implements EmployeeService{

Employee e=new Employee();

@Override

public void calculate(double sal )

{

if(sal<20000 && sal>5000)

{

e.setDesignation("System Associate ");

e.setInscheme("scheme c");

System.out.println("desig="+e.getDesignation());

System.out.println("scheme="+e.getInscheme());

}

else if(sal<40000 && sal>=20000)

{

e.setDesignation("Programmer");

e.setInscheme("scheme B");

System.out.println("desig= "+e.getDesignation());

System.out.println("scheme= "+e.getInscheme());

}

else if(sal>=4000)

{

e.setDesignation(" manager");

e.setInscheme(" scheme A");

System.out.println("desig="+e.getDesignation());

System.out.println("scheme="+e.getInscheme());

}

else

{

e.setDesignation(" clerk");

e.setInscheme("no scheme");

System.out.println("desig="+e.getDesignation());

System.out.println("scheme="+e.getInscheme());

}

}

}

---------------------------------------------------------------------------------------------------------------------------------------------------------

iii).package com.cg.eis.pl;

import java.util.\*;

import com.cg.eis.bean.Employee;

import com.cg.eis.service.Service;

public class Details {

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

System.out.println("enter id , name, sal of first employee");

int id1=sc.nextInt();

String name1=sc.next();

double sal1=sc.nextDouble();

Employee e1=new Employee();

e1.setId(id1);

e1.setName(name1);

e1.setSal(sal1);

System.out.println("enter id , name, sal of first employee");

int id2=sc.nextInt();

String name2=sc.next();

double sal2=sc.nextDouble();

Employee e2=new Employee ();

e2.setId(id2);

e2.setName(name2);

e2.setSal(sal2);

Service s=new Service();

//s.calculate(sal2);

System.out.println("employee 1: ID="+e1.getId()+" \nNAME"+e1.getName()+"\n SAL"+e1.getSal());

s.calculate(sal1);

System.out.println("employee 2:ID"+e2.getId()+" \nNAME"+e2.getName()+"\n SAL"+e2.getSal());

s.calculate(sal2);

}

}

OUTPUT:-

enter id , name, sal of first employee

219

Anuhya

5000

enter id , name, sal of first employee

202

Rashmitha

6000

employee 1: ID=219

NAME Anuhya

SAL 5000.0

desig= manager

scheme= scheme A

employee 2:ID=202

NAME Rashmitha

SAL6000.0

desig=System Associate

scheme=scheme c

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Lab 6: Exception Handling

1).package vjit;

class BlankException extends Exception{

/\*\*

\*

\*/

private static final long serialVersionUID = 1L;

String str;

BlankException(String str){

this.str=str;

}

public String toString() {

return "Exception Occured : "+this.str;

}

}

public class HandleEception {

public static void main(String[] args) {

PersonDetails person1 = new PersonDetails();

person1.setFirstName("");

person1.setLastName("");

if(person1.getFirstName().equals("") || person1.getLastName().equals("")) {

try {

throw new BlankException("Blank");

} catch (BlankException e) {

// TODO Auto-generated catch block

System.out.println(e.toString());

}

}

}

}

...

Exception Occured : Blank

---------------------------------------------------------------------------------------------------------------------------------------------

2).package bhavana;

class AgeException extends Exception{

/\*\*

\*

\*/

private static final long serialVersionUID = 1L;

String str;

AgeException(String str){

this.str = str;

}

public String toString() {

return "Exception : "+this.str;

}

}

public class CheckAge {

public static void main(String[] args) {

Person person1 = new Person("Abhi",17);

try {

if(person1.age<18) {

throw new AgeException("Age should be greater than 18");

}

}

catch(AgeException e) {

System.out.println(e.toString());

}

}

}

...

Exception : Age should be greater than 18

----------------------------------------------------------------------------------------------------------------------------------------------------

3).package com.cg.esi.exception;

import com.cg.esi.bean.Employee;

class ExceptionSalary extends Exception{

String str;

ExceptionSalary(String str){

this.str = str;

}

public String toString() {

return "Exception : "+str;

}

}

public class EmployeeException {

public static void main(String[] args) {

Employee e1 = new Employee(1,"Bavs",2000,"Manager");

try {

if(e1.getSalary()<3000) {

throw new ExceptionSalary("Salary less than 3000");

}

}

catch(ExceptionSalary e) {

System.out.println(e.toString());

}

}

}

...

Exception : Salary less than 3000