VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY:: NAMBUR

MID TERM ASSIGNMENT
ACADEMIC YEAR: 2020 TO 2021

Hall Ticket No. :

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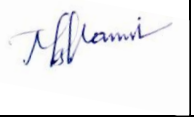
Name of the Student : **Medabalimi Vamsi**

Course : **B.Tech**

Branch : **CSE_C**

Subject : **Java Programming**

ASSIGNMENT / MARKS DETAILS

To be filled by the Student			**To be filled by the Subject Teacher**		
Submission Date	***Assignment***	***Signature of the Student***	***Max Marks***	***Marks Obtained***	***Signature of Subject Teacher***
21/09/2020	Java Assignment -1		**5**		

INSTRUCTIONS TO THE STUDENTS

1. The assignment should be submitted to the subject teacher on or before the given schedule.
2. Answer should be written on both sides of the paper.

INSTRUCTIONS TO THE SUBJECT TEACHER

1. The Subject teacher has to value with red ball point pen only.
2. The Subject teacher should award the marks on the left hand side of the margin and at the end of the each answer.
3. Do not correct the marks by overwriting or by scratching and writing.
4. The Subject teacher has to post marks in the space provided.

1) JAVA buzzwords or Features of java

The java programming language is high-level language that can be characterised by all of the following buzz words.

- Simple
- Object Oriented
- Distributed
- Interpreted
- Robust
- Secure
- Architectural neutral
- Portable
- High performance
- Multithreaded
- Dynamic

Simple :-

- Java was designed to be easy for professional programmer to learn and use effectively
- It's simple and easy to learn if you already know the basic concepts of Object Oriented programs
- In java there is small number of clearly defined ways to accomplish a given task OOZE.

Object Oriented :-

- Java is true object oriented language.
- Almost "everything is an object" paradigm. All program code and data reside within objects and classes
- The object model in java is simple and easy to extend.

Distributed :-

- Java is designed for distributed environment of the internet. It is used for creating applications on networks.
- Java applications can access remote objects on internet as easily as they can do in local system.
- Java enables multiple programmers at multiple remote locations to collaborate and work together on a single project.

Compiled and interpreted :-

- Usually a computer language is either compiled or interpreted. Java combines both his approach and makes it a two-stage system.
- Compiled: Java enables creation of a cross platform programs by compiling into an intermediate
- Interpreted: Byte code generates machine code that can be directly executed by the machine with JVM

Robust:- It provides many features that makes the program execute reliably in variety of environments.

Secure:-
- Java provides a "firewall" between a networked application and your computer.
- When a java compatible web browser is used, downloading can be done safely without fear of viral infection or malicious intent.

Architecture Neutral:-
- Java language and java virtual machine helped in achieving the goal of "write once; run anywhere, anytime, forever."

Portable:-
- Java provides a way to download programms dynamycally to all the various types of platforms connected to the internet.

High performance:- Its performance is high of byte code.

Multithreaded:- Multithreaded programs handled multiple tasks simultaneously, which was helpful in creating interactive, network programs.

Dynamic:-
- Java is capable of linking in new class libraries, methods and objects

Factors making java famous language:-

1) Java is easy to learn
2) Java is Rich in API
3) Powerful development tools Eg. Eclipse, Netbeans.
4) Java is FREE
5) Great collection of open source libraries
6) Wonderful community support.

2) Inheritance in JAVA

Inheritance is an important pillar of OOP (object oriented programming). It is the mechanism in java by which one class is allowe to inherit the features (fields and methods) of another class.

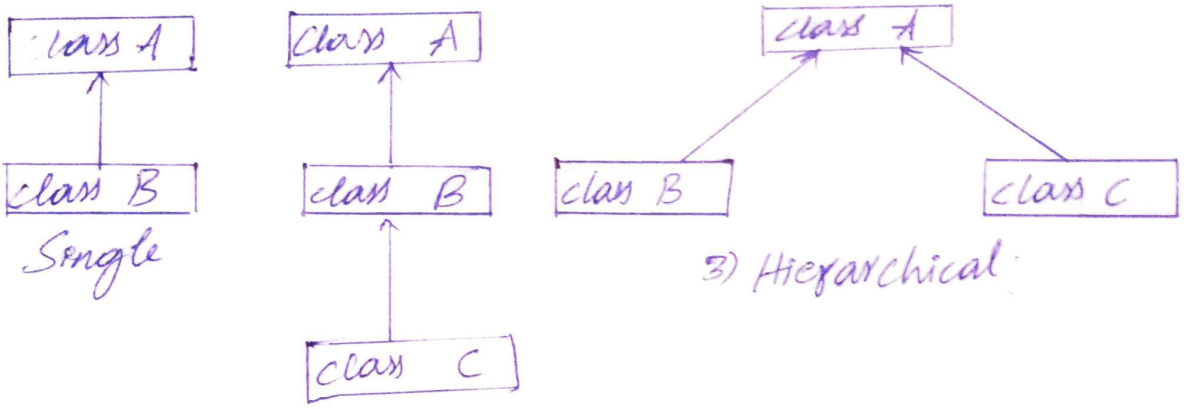
Super class:- The class whose features inherited is known as superclass (or a base class or a parents)

Sub class:- The class that inherits the other class is known as subclass (or a derrived class, extended class, or child class). The subclass can add its own fields and methods in addition to the superclass fields and methods.

Reusability:- Inheritance supports the concept of "reusability", i.e when we want to create a new class and there is already a class that includes some of the code that we want, we can derive our new class from the existing class. By doing this, we are reusing the fields and methods

Types of inheritance in java

On the basis of class, there can be three types of inheritance in java: single, multiple and hierarchical



1) Single

2) Multilevel

3) Hierarchical

In java programming, multiple and hybrid inheritance is supported through interface only.

⇒ Single level inheritance :- When a class inherits another class, it known as single inheritance.

E.g.:

```
Class A {
        int a;
    }
    Class B extends A {
        public void setValues() {
            i=59;
        }
    }
```

Multilevel Inheritance:- When there is chain of inheritance, it is known as multilevel inheritance As you can see in the given example.

E.g.
```
class A{
    public void methodA(){
        System.out.println("A");
    }
class B extents A{
    public void methodB(){
        System.out.println("B");
    }
class C extents B{
    public void methodC(){
        System.out.println("C");
    }
}
```

Hierarchical Inheritance:- When 2 or more classes inherits a single class, it is known as hierarchical Inheritance.

Example:-
```
class A{
    public void methodA(){
        System.out.print("A");}
class B extends A{ void methodB()
    void methodB(){System.out.print("B");}
}
```

```
class C extends A{
    void methodC(){System.out.println("C");}
}
```

3)

```
import java.util.*;
import java.io.*;
class movieMagic{
    int year;
    String title;
    float rating;
    movieMagic(){   // default constructor.
        year = 0;
        rating = 0.0f; // notice the 'f'
        title = " ";
    }
    void accept(){
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the title of movie:");
        title = sc.nextInt();
        System.out.println("Enter year of release: ");
        year = sc.nextInt();
        System.out.println("Enter the movie rating: ");
        rating = sc.nextFloat();
    }
    void display(){
        System.out.println("The title of movie is: "+title);
        if(rating >= 0.0 && rating <= 2.0){
            System.out.println("The movie was Flop");
        }
```

```
        else if(rating >= 2.1 && rating <= 3.4){
            System.out.println("The movie was semi-hit");
        }
        else if(rating >= 4.5 && rating <= 4.5){
            System.out.println("The movie was a Hit");
        }
        else if(rating >= 4.6 && rating <= 5.0){
            System.out.println("The movie was superhit");
        }
        else {
            System.out.println("Rating should be 0.0 - 5.0");
        }
    }
    public static void main(String args[]){
        movieMagic ob = new movieMagic();
                    // created object of class MovieMagic
        ob.accept();
        ob.display();
    }
}
```

Output :-

```
Enter the title of the movie: RRR
Enter the year of release   : 2022
Enter the movie rating      : 4.2

The title of the movie is : RRR
The movie was a Hit
```

4)
```
import java.io.*;
import java.util.*;
class Overloaded1 {
    void num_calc(int num, char ch) {
        int s = 0;
        if (ch == 'S')
            s = num * num;
        else
            s = num * num * num;
        System.out.println("S = " + s);
    }
    void num_calc(int a, int b, char ch) {
        int s = 0;
        if (ch == 'P')
            s = a * b;
        else
            s = a + b;
        System.out.println("S = " + s);
    }
    void num_calc(String s1, String s2) {
        if (s1.equals(s2))
            System.out.println("Both strings are equal");
        else
            System.out.println("Both strings are not equal");
    }
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        Overloaded1 ob = new Overloaded1();
        ob.num_calc(5, 'S');
        ob.num_calc(8, 3, 'n');
        ob.num_calc("Raman", "Naman");
    }
}
```

Output :-

5 = 25

5 = 11

Both strings are not equal.

Sources :-

1st question :- w3 proffessors.com, text books in teams.

2nd question :- Geeks for geeks

3rd question :- Guide for school.com

4th question :- icsejava.com

THE END

VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY, NAMBUR

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Vision of the Department
To facilitate quality education by focusing on assimilation, generation and dissemination of knowledge in the area of Computer Science & Engineering to transform students into socially responsible engineers.

Mission of the Department
○ Equip our graduates with the knowledge by ***student centric teaching-learning process*** and expertise to contribute significantly to the software industry and to continue to grow professionally. ○ To train ***socially responsible, disciplined engineers*** who work with good leadership skills and can contribute for nation building. ○ To make our graduates ***aware of cutting edge technologies*** and make them industry-ready engineers. ○ To shape the department into a ***centre of academic and research excellence***.

Program Educational Objectives	
PEO-1	To provide the graduates with solid foundation in Computer Science and Engineering along with the **fundamentals of Mathematics and Sciences** with a view to impart in them high quality technical skills like modelling, analyzing, designing, programming and implementation with global competence.
PEO-2	To prepare and motivate graduates with **recent technological developments related to core subjects** like programming, databases, design of compilers and Network Security aspects and future technologies so as to contribute effectively for Research & Development by participating in professional activities like publishing and seeking copy rights.
PEO-3	To train graduates to choose an appropriate **career in employment, higher education or entrepreneurship** by empowering them to excel in competitive examinations, by preparing them for lifelong learning and by inculcating in them ethical leadership skills.
PEO-4	To train the graduates to have basic **interpersonal skills and sense of social responsibility** that paves them a way to become good team members and leaders.