VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY:: NAMBUR

MID TERM ASSIGNMENT
ACADEMIC YEAR:20 TO 20

Hall Ticket No. : 19BQ1A05M5

Name of the Student : Tambura Veera Venkata Harshith

Course : B.Tech

Branch : ECE/CSE/EEE/IT

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*
			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.

20/09/20

JAVA ASSIGNMENT-I

SET-4

RBQ1A05M5

1. What are the components of java platform? Explain. Write a java program to illustrate the using conditional statements and looping statements.

A platform is the hardware or software environment in which a program runs. The java platform differs from most other platform in that it's software-only platform that runs on top other hard-ware platforms that runs on top of other hardware platforms.

The java program has platforms are two components

→ Java virtual Machine (JVM)

→ Java application programming Interface (API)

1. Java virtual Machine (JVM):-

JVM is an abstract Machine. It's a specification that provides runtime environment in which java byte code can executed. JVM is platform independent. The JVM performs following operation.

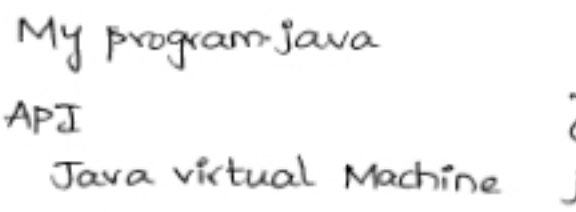
* Loads code
* verifier code
* Executer code
* provides run-time environment.

It contains classloader, memory, Area, execution engine etc.,

2. Java application programming Interface (API):-

An API is a large collection of readymade software components that provides many useful capabilities.

It is grouped into libraries of related classes and Interfaces. These libraries are known as packages.



The library contains components for managing input data base programming and much more.

program displaying prime numbers:-

```
import java.util.scanner;
import java.long.Math;
public class prime {
    public static void (string[]args){
        Scanner sc = new scanner (system.in);
        system.out.println("enter a number");
        int a = sc.nextInt();
        for (int i=1 ; i<a ; i++){
            if (i<= 10) {
                int count = 0
                for (int j= 1 ;j<= i ; j++){
if (count ==2)
  system.out.println(i);
}
else {
  if (i%2!=0&&i%3!=0&&i%5!=0&&i%7!=0
      &&i%11!=0 &&i%13!=0 &&i%17!=0&&
```

```
                i%19==0 && i%(Math.sqrt(i))!=0)
                System.out.println(i);
            }
        }
    }
}
```

Here for it is called looping statement and if-else is called conditional statement.

- Write any six significant difference between produce oriented programming and object oriented programming. Why JAVA is ROBUST programming & OOP.

procedural oriented programming	object oriented programming
1. In procedural programming, program is divided into small parts called "functions"	1. In object oriented programming is divided into small parts is "objects".
2. procedural programming follows top down approach	2. Oriented programming (OOP) follows bottom up approach
3. There is no access specifiers in procedural programming.	3. object oriented programming have access specifiers like "private", "public", "protected" etc.
4. Adding new data and function is not easy in procedural or is not easy in procedural oriented programming	4. Adding new data and function is easy in object oriented programming.

5. Procedural programming doesnot have any proper way for hiding data so, it is less secure.	5. object oriented programming data hiding data so it more secure.
6. In procedural programming overloading is not possible	6. overloading is possible in object oriented programmi
7. In procedural programming function is more important than data.	7. In object oriented programmin data is more important than function
8. procedural programming based on unreal world.	8. object oriented programming is based on real world
9. Examples: C, FORTRAN, Pascal, Basic etc.,	9. Examples:- C++, Java, python, C # et

Why Java is "ROBUST PROGRAMMING LANGUAGE".

Robust means reliable and no programming language can really assure reliability. Java puts a lot of emphasis on early checking for possible errors, as java compiler are able to detect many problems that would first show up during execution time in other languages.

Java has the strong memory allocation and automatic garbage collection mechanism. It provided the powerful "Exception handling" and "Type checking" mechanism" as compare to other programming languages.

Compiler checks the programming whether there any error and interpreter checks any runtime error and makes the system secure from crash. All of the above features makes the java language robust.

java example of "robust" code.

```
if (var == true) {
. . . .
}else if (var = = false) {
. . . .
}else {
. . .
}
```

Robust code means that program takes into account all possibilities, and that there is no such thing as an error - all situation handled by code and result in valid state, hence the "else".

1. Java is robust because, it is highly supported language it is possible portable across many operating systems. Java also has feature of Automatic memory management and garbage collection.

2. Java is robust and flexible language because java uses early checking for errors later dynamic (run-time) error checking. Java has a good mechanism for error checking. Java is the robust language because of it's cross plat form features which is supported by the JVM.

5. To call a software to robust it must not crash in due to unwanted behaviour. In 'C' language where the programmer manages memory (manually allocation of memory) it's common for a program to crash due to memory leak.

Features of java programming language Robust:-

BUILTIN MEMORY MANAGEMENT:

Memory allocation/deallocation is performed internally in java and pointers are not exposed to developer. Hence runtime segmentation fault kind of errors (due to pointer misuse) do not occur (or very rare)

GARBAGE COLLECTOR:

since garbage collector automatically cleans unreferenced objects, memory leaks are controlled.

EXCEPTION HANDLINES:

Avoids applications crash and lets programme to easily handle exception scenarios and improve Robustness.

CERTAIN FEATURES OF JAVA COMPILER SUCH AS STRONGLY TYPED:

Avoid automatic conversion, which reduces unexpected runtime behaviour.

So, robustness characteristics of java applications to run with minimal/no run time errors.

3. Define a class parking lot with following description instance variance/data members.

int vno - To store the vehicle number

int hours - To store the number of hours the vehicl is parked in the parking lot

double bill - To store bill amount.

Member method:-

void input() - To input and store vno and hours.

void calculate() - To compute the parking charge at the rate of RS.3 for the 1st hour or part there of and RS.150 for additional hour a part.

void display() - To display details.

Write a main method to create an object of class and call the above method.

```
Package parking for features:
import java.util.scanner;
class parking lot
{
 private int vno;
 private int hours;
 double bill;
 public void input()
 {
  scanner sc = new scanner(system.in);
```

```
System.out.println("enter vachile number");
vno = sc.nextInt();
System.out.println("enter no.of hours");
vno = sc.nextInt();
}
public void calculate()
{
bill = hours > 1 ? 3 + (hours-1)*1.50=3;
}
public void display()
{
system.out.println("vachile number is "+vno);
system.out.println("vachile parked for"+hourst"
                                    hours");
system.out.println("Amount to be paid is"+bill);
}
}
ublic class parkinglot features

public state voidmain (string[]args)
{
parkinglot obj = newparkinglot();
obj.input(); obj.calculate(); obj.display();
}
}
```

4. Design a class to overload a function joystring() as follows

i, void joystring (string s, ch1, char ch2) with string any two character ch_2 in the given strings and prints the newstring.

EXAMPLE:

Input value of S = "TEKHNALAGY".

ch_1 = 'A'.

ch_2 = 'o'

output = "TECHNOLOGY".

ii, void joy (string s) with one string argument that prints the position of the 1st space and the lastspace of given strings. first Index: 5
last Index: 36.

EXAMPLE:

Input value of S = "TEGHNALAGY". "COMMON WEALTH".

S_2 = "GAMES".

output = "COMMON WEALTH GAMES".

```
import java.io;
import java.util.scanner;
public class overload
{
 void joystring(string s, char ch1, char ch2) {
 string p = " ";
 for (int i=0; i<s.length(); i++){
```

```
        char ch = s.charAt(i);
        if (ch==ch1)
            ch==ch2;
            p+ = ch;
    }
system.out.println(p);
}
void joystring(strings)
{
 int a=0;
 int b=0;
 for(int i=0; i<s.length(); i++)
 {
  char ch = s.charAt(i);
  if(ch==" ")
  {
   a = i;
   ++b;
   if(b==1)
    system.out.println("first index": +a);
  }
 }
 system.out.println("last index": +b);
}
void joystring(strings,s1, strings2)
{ system.out.println(s1 +" " + s2);
}
```

```
public static void main(String[] args)
{
overload obj = new overload();
 String s = "TECHINALAGY";
 char ch1 = "A";
 char ch2 = "o";
 String ss = "cloud computing means internet based
              computing";
 String s1 = " COMMON WEALTH";
 String s2 = " GAMES";
obj.Joystring(ch1, s, ch2);
 obj.Joystring(ss);
 obj.Joystring(s1, s2);
}
}
```

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.