Assignment - I

VISION DATE : PAGE NO.

Question - 1

List out features of java. Explain any two features.

The most important features of the java language, is given below.

1. simple
2. object - oriented
3. Portable
4. Platform independent
5. Secured
6. Robust
7. Architecture neutral.
8. High Performance
9. Multithreaded
10. Dynamic

1. simple :

Java is very easy to learn and its syntax is simple, clean and easy to understand. According to Sun Microsystem, java language is a simple Programing language because :

→ Java syntaxc is base on c++

→ There is no need to remove unferenced object beacuse, there is an automatic Garbage collection in java

2. Object - oriented

Java is an object - oriented programing language. Everthing in java is an object. object.

means we organiz our software as a combi-nation of different types of objects that incor-porate both data and behaviour.

OOP is methodology that simplifies software development and maintenance by providing some rules

1. Object
2. Class
3. Inheritence
4. Polymorphism
5. Abstraction
6. Encapsulation

Question - 2

Explain type-conversion in java. Explain widening and narrowing type casting.

Type-conversion is a method or process that converts a data type into another data type in both ways manually and automatically.

automatic conversion is done by the compiler and manually conversion is done or performed by the programmer.

In java type-conversion is classified into two types

1. widening (automatic)
2. narrowing (implicit)

~~Narrowing Type casting~~

double → float → long → int → short → byte

widening Type casting

widening Type casting :

Converting a lower data type into a higher one is called widening type casting. it is also know as implict conversion or casting down. it is safe beacuse there is no chance to lose data. it take place when

Both data type must be compatible with each other.

The target type must be larger than the source type.

byte → short → int → long → float → double

Narrowing Type casting

converting a higher data type into a lower one is called narrowing type casting it is also know as explict conversion or casting up. it is done mannually by the programmer. if we do not perfored casting then compiler report run time err

double → float → long → int → short → byte

VISION DATE :
PAGE NO.

Question - 3

Explain JRE , JDK and JIT.

JRE

(Java - Runtime - environment) is the part of the Java Development kit (JDK) it is a freely available software distribution which has java class library, specific tools and a stand - alone JVM. It is the most comman environment available in to the device to run java program.

Technologies which get used for deplomen t such as Java web start.

Integration libraries like Java Database connectivity (JDBC) and JNDI

JDK

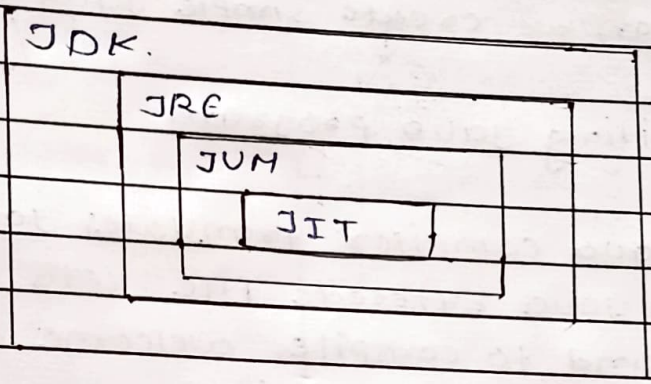
(Java - Development - kit) in Java Development kit is software developement environment which is used to develop java applications and applets its physically exists. it contains JRE + development tools.

standerd edition Java Plateform
Enterprise edition Java plateform
Micro Edition Java Plateform

JIT (Java - in - time)

JIt is an integral part of JVM (Java vertual machine). it accelerates exection performan many time. over the previous level in other work

it is a long running ~~time~~, computer-intensive program that provide the best performance environment. JIT convert high level language code into a machine code (bytecode). JIT stands for java-in-time compiler



Question-4

Explain giving example: create, compile and execute a simple java program.

Let's use the command window prompt(cmd) and open a text editor such as notepad to create ~~the~~ a java source-code file welcome.java.

welcome.java

Let's create a java program and name of this file to welcome.java:

```
Public class welcome {

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

```
        System.out.println("Welcome to Java!");
    }
}
```

Hear, we create simple java code program

compiling java program

A java compiler translates java source file into a java bytecode file. Let's use following command to compile welcome.java file.

```
javac welcome.java
```

If there aren't any syntax error, the compiler genrates a bytecode file with a .class extension. Thus this command generates a file name welcome.java

Executing java program

Let's use the following command to execute the bytecode

```
java welcome
```

The output of the above program display the message "Welcome to Java!"

VISION DATE: PAGE NO.

Question - 5

compare object-oriented program with sequential programing.

Object-oriented programing (OOP)	Sequential / procedural Programing (POP)
→ it deals with data	→ it deals with algorithms.
→ program divided into objects	→ program is divided into functions.
→ it needs more memory	→ it need less memory
→ it follow BOTTOM-UP approach	→ it follow TOP-DOWN approach
→ overloading is possible with polymorphism	→ overloading is not possible
→ it's highly secured	→ it's less secure.
→ Data hiding is possible with encapsulation and Abstraction	→ Data hiding is not Possible
→ Example : C etc.	Example : C++, java etc.

Assignment - 2

VISION DATE : PAGE NO.

Question - 1

Difference between DO... while and while Statement.

while	do... while
→ condition is checked first than statement (s) is executed	→ statement(s) is execute atlest once, thereafter condition is checked
it might occur statement(s) is executed zero time, if condition is false	→ At least once the statement(s) is executed.
no semicolon at the end of the while. while (condition)	semicolon at the end of while. while (condition);
while loop is entry controlled loop.	do... while loop is exit controlled loop.
while (condition) { statement(s); }	do { statement(s); } while (condition);

Question-2

Explain break and continue statement with example.

The break and continue statement are jump statements that are used to skip some statements inside the loop or terminal the loop.

in java, a break statement is mesorly used for:

To exit a loop.

used as a 'civilized' from to goto

Terminal a sequence in a switch statement.

```
class GFG {

    Public static void main(String[] args) {

for(int i = 0; i<10; i++) {
        if(i==5) {
            break;
        }
        System.out.println("i: " + i);
    }
}
```

Output

```
i: 0
i: 1
i: 2
i: 3
i: 4
```

VISION DATE: PAGE NO.

continue :

A continue statement in java is used to skip the current iteration of a loop. we can use continue statement inside any type of loops such as for, while and do.. while loop.

Genraly continue use in the situation when we want continus the loop but not want the remaining statement after the continue statement.

```
class GFG {

    public static void main(String[] args)
{
    for (int i = 0; i <= 5; i++)
      {
        if( i == 3 ) {
            continue;
        }
    System.out.println("i = " + i);
    }
}
```

Output

i = 0
i = 1
i = 2
i = 4
i = 5

Question - 3

write a Java program to Print first 10 Fibonacci number using for loop.

```
class Fibonacci {

Public static void main (String [] args)
{
int n1 = 0 , n2 = 1 , n3, i;
int count = 10;

System.out.Print(n1 + " " + n2);

for (i=2 ; i<count ; i++)
{
n3 = n1 + n2;
System.out.Print (" " + n3);
n1 = n2;
n2 = n3;
}
}
}
```

Output

0 1 1 2 3 5 8 13 21 34