



Indian Institute of Information Technology, Pune

Department	Computer Science and Engineering (CSE)		
Name:	Sai Manoj Etcherla	Enrolment No:	112015044
Year:	Second year	Semester:	4th
Subject Code:	JAVA	Subject Name	JAVA

Theory Assignment – 1

Q1	Write applications Java Language.
Ans-1	<p>Java language has wide-variety of applications. Some of them are:</p> <ul style="list-style-type: none">• Web applications• Desktop applications• Mobile applications(especially Android)• Cloud based applications• Web servers• Application servers• Games• Database Connection etc.
Q2	Explain why use Java Language.
Ans-2	<ul style="list-style-type: none">• Java is one of the most popular programming languages in the world.• It is open-source and free.• It is secure, fast and powerful to use.• It is simple and easy to learn.• It is platform-independent, works on different platforms like Windows, MacOS, Linux etc.



Indian Institute of Information Technology, Pune

	<ul style="list-style-type: none">• Java has huge online community support. So instant help will be available for any questions regarding language.• Java is pure object-oriented language which gives clear structure of programs and good understanding of classes and objects.• Java is close to C++ and C#, so it is easy for programming to switch to JAVA or vice versa.
Q3	Justify Java is platform independent.
Ans-3	<p>A platform is the hardware or software environment in which a program runs.</p> <p>For other languages like C, C++ the program should be compiled before it runs. So, it depends on platform and compiler.</p> <p>For Java, the program is compiled into byte code and byte code is platform independent. It only requires JVM (Java Virtual Machine) to run the program which is common for all machines like Windows, MacOS, Linux etc.</p> <p>Java is a write once, run anywhere (WORA) language. Java provides a software-based platform. The Java platform differs from most other platforms that runs on top of other hardware-based platforms. So, Java is a platform-independent language.</p>



Q4	Explain any five features of Java Language.
Ans-4	<p>Features of Java language are:</p> <p><u>1)Simple:</u> Java is simple to use and easy to learn. Its coding style is clean and easy for beginners. It removes complexity because it doesn't use many complex features of other languages like C and C++.</p> <p><u>2)Object-oriented:</u> Java is purely object-oriented language. Everything in Java language is object. So, we get good understanding of classes and objects. Java also strongly supports object-oriented features like Encapsulation, Abstraction and Inheritance. These features help us make our program more secure and more reliable.</p> <p><u>3)Platform Independent:</u> Java is platform-independent language. This is significant feature of Java, which makes it a portable language. Java is write once, run anywhere (WORA) language. So, if a program is written once in Java can be run on any machine in the world. This is possible by concept of Byte code and using JVM (Java Virtual Machine) to run the compiled code.</p> <p><u>4)Secure:</u> Security is an important feature for any programming language as there is a threat of viruses and malicious</p>



activities. Java supports access modifiers to check memory access and also ensures that no viruses enter the program. Java programs run in a virtual machine sandbox – A separate environment that allows users to execute their applications without affecting underlying system. Thus, Java provides more security to the programs than C and C++.

5)Robust:

Java is robust because it is capable of handling run-time errors, supports automatic garbage collection and exception handling and avoids explicit pointer concept. Java have strong memory management system. It helps in eliminating errors as it checks the code during both compile and runtime. So these all qualities make Java robust in nature.