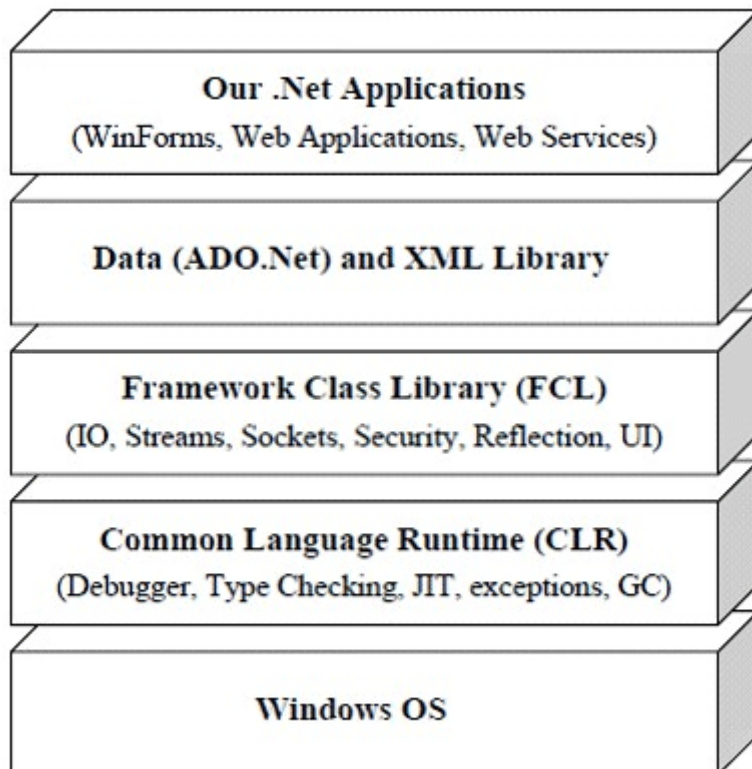


Q1 .What is .net Framework? Explain with diagram.

Net framework is a software development platform developed by Microsoft. The .NET Framework consists of the common language runtime (CLR) and the .NET Framework class library.

The common language runtime manages memory, thread execution, code execution, code safety verification, compilation, and other system services.

The .NET Framework class library is a collection of reusable codes those are integrated with the common language runtime.



Q2:- Write Advantage of .Net Framework.

1. Significantly decreases the quantity of code
2. Web applications developed in .NET are Secure
3. Changes can be done easily
4. .NET is language independent
5. NET allows the use of multiple languages

Q3. Q6 what is Namespaces?

A *namespace* is a container created to hold a logical grouping of unique identifiers or symbols (i.e. names). An identifier defined in a *namespace* is associated only with that *namespace*.

In other words Namespace is a group of classes and data structure used for specific purposes

Namespaces provide a method for preventing name conflicts in large projects.

Import keyword is used to import namespace in our project.

Q4. Write Object Oriented Feature of VB.net.

Object Oriented Programming (OOP) is a programming model where programs are organized around objects and data rather than action and logic.

VB.net supports following OOPs feature.

1. Creating and using class and object.
2. Abstraction, Encapsulation, Inheritance and Polymorphism.
3. Overloading and overriding.
4. Constructors and Destructors

Q5. What is .Net IDE?

An integrated development environment (IDE) is a software application that provides facilities to computer programmers for software development.

An IDE normally consists of a source code editor, automation tools and a debugger. Visual studio is commonly used IDE.

Key Feature

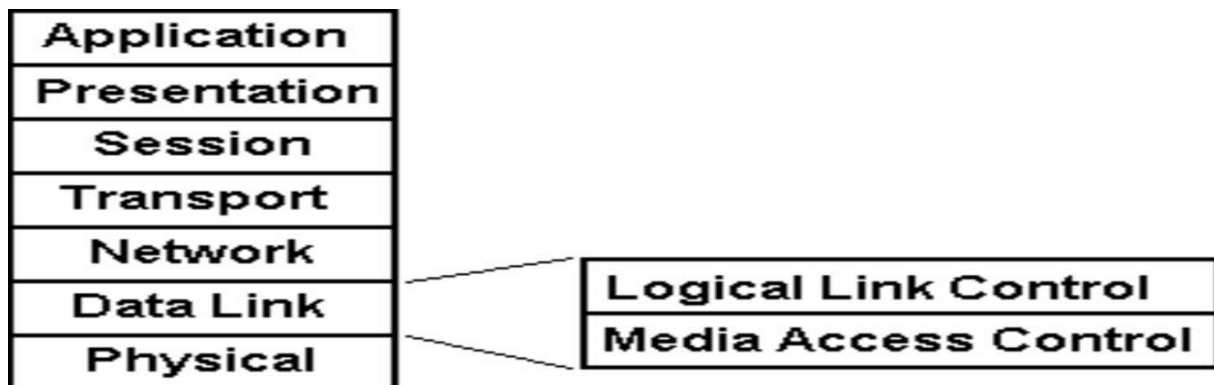
- 1 Dynamic Help
2. Window Layout
- 3 Projects and Solutions
- 4 Toolbox
- 5 Command Window
- 6 Task List

Q1. What is Data Link Layer?

The data link layer the second layer of the seven-layer OSI model of computer networking. This layer transfers data between adjacent network nodes The Data-Link layer contains two sublayers

- Media Access Control (MAC)
- Logical Link Control (LLC)

The Data-Link layer divides output data into data frames, and handles the acknowledgements from a receiver that the data arrived successfully.



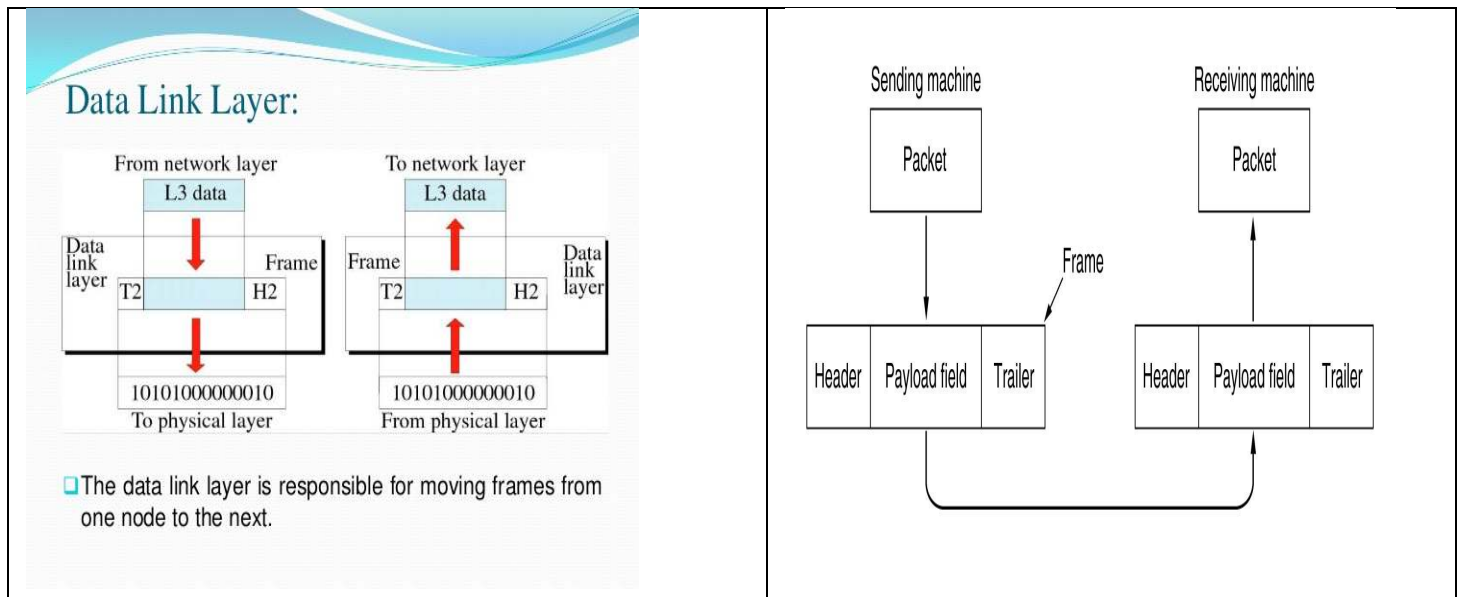
Q2. Define is framing.

Frame is packet of information at the data link layer. Frames encapsulate datagram.

Framing is process of dividing data streams into frame before transmitting over network. It provides a way for a sender to transmit a set of bits that are meaningful to the receiver.

Ethernet, token ring, frame relay, and other data link layer technologies have their own frame structures.

Frames have headers that contain information such as error-checking codes.



Q3 Describe different types of framing.

Byte-oriented framing: - This type of framing differentiates one byte from another.

Bit-oriented framing :- This type of framing allows the sender to transmit a long string of bits at one time. Most LANs use bit-oriented framing

Clock-based framing :-In this type of framing a clock-based system, a series of repetitive pulses are used to maintain a constant bit rate and keep the digital bits aligned in the data stream.

Q4. What is Error Detection and correction?

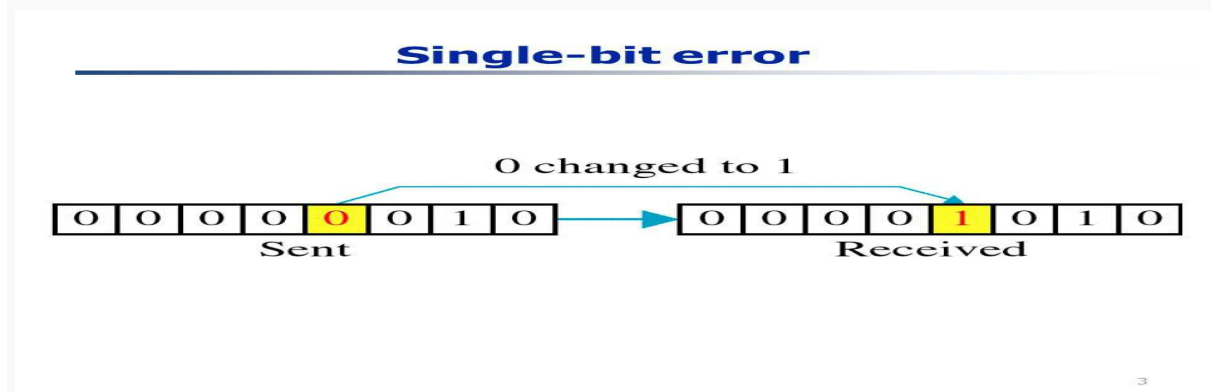
Error detection is the detection of errors caused by noise or other impairments during transmission from the transmitter to the receiver. Error correction is the detection of errors and reconstruction of the original, error-free data.

Data-link layer uses some error control mechanism to ensure that frames (data bit streams) are transmitted with certain level of accuracy.

Q5. Name the types of errors.

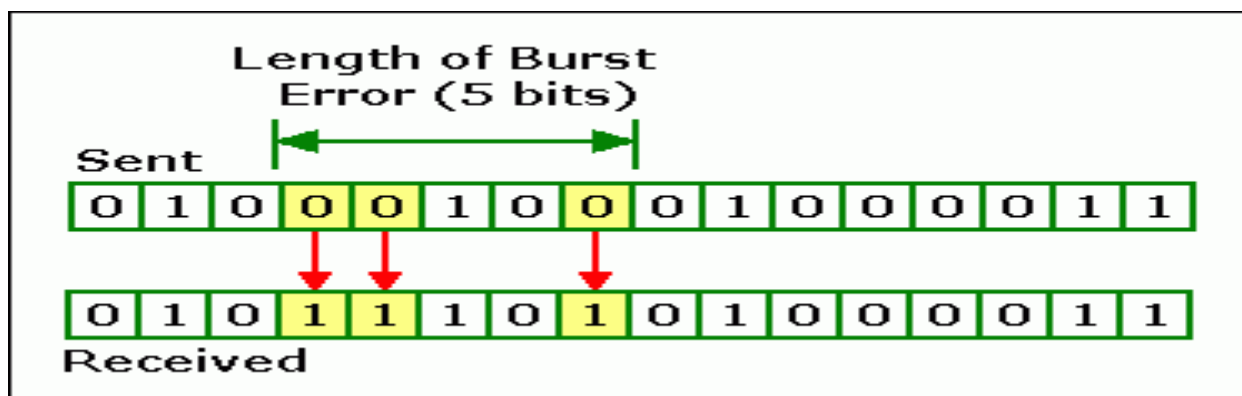
Single-bit Error

The term single-bit error means that only one bit of given data unit (such as a byte, character, or data unit) is changed from 1 to 0 or from 0 to 1 as shown in



Burst Error

The term burst error means that two or more bits in the data unit have changed from 0 to 1 or vice-versa. The burst error doesn't necessarily mean that error occurs in consecutive bits. The length of the burst error is measured from the first corrupted bit to the last corrupted bit. Some bits in between may not be corrupted.



Q1 Define Java Architecture .

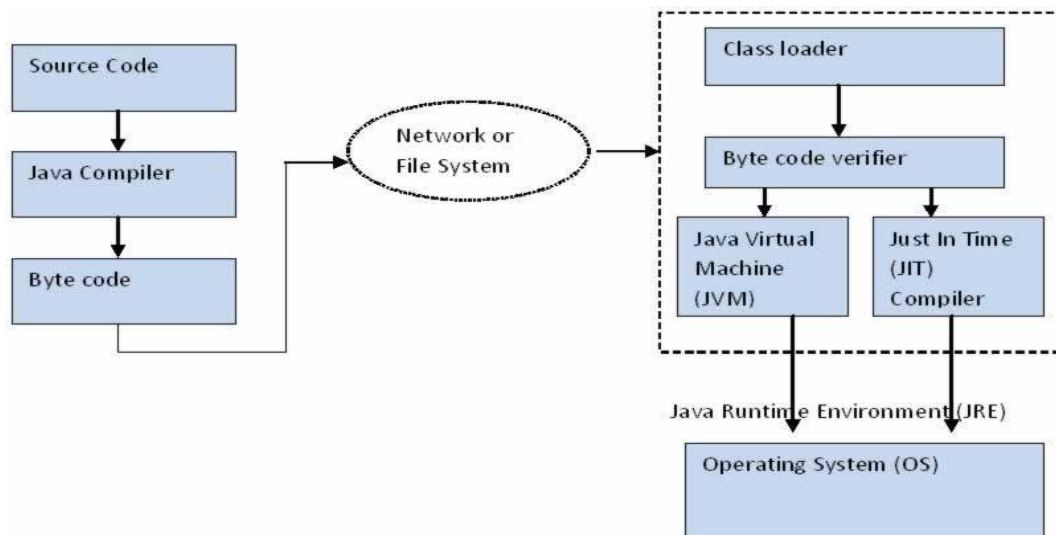
Answer 1:

Java is a high level programming language. It produces software for multiple platforms. Java combines both the approaches of compilation and interpretation.

While running a java program

1. First, java compiler compiles the source code into bytecode.
 2. At the run time, Java Virtual Machine (JVM) interprets this bytecode and generates machine code .
 3. This machine code is directly executed by the machine in which java program runs.
- So java is both compiled and interpreted language.

The compiler compiles the **Java** file into a **Java** .class file, then that .class file is input into the JVM, which Loads and executes the class file. Below is a diagram of the **Architecture** of the JVM.



Q2 What is the use of JDK and describe its tools?

Answer 2:

The Java Development Kit (JDK) is a software development environment used for developing Java applications and applets.

JDK includes

1. Java Runtime Environment (JRE),
2. Interpreter/loader (java),
3. Compiler (javac),
4. Archive (jar),
5. Documentation generator (javadoc) and other tools needed in Java development.

Q3. What is Applet?

Answer 3:

- Applets are small Java applications that can be accessed on an Internet server, transported over Internet, and can be automatically installed and run as a part of a web document.
- After a user receives an applet, the applet can produce a graphical user interface. It has limited access to resources so that it can run complex computations without introducing the risk of viruses or breaching data integrity.

Q4. How Many Types of Java Program?

Answer 4:

1. Java Applet - small program written in Java and that is downloaded from a website and executed within a web browser on a client computer.
2. Application - executes on a client computer. Developed to perform specific tasks.
3. Java Servlets: Java servlets are the Java programs that run on a web server to generate dynamic web contents.

Q5. What is application in Java?

Answer 5:

A Java program is a computer program that is written and designed for a specific need or purpose. It runs stand-alone in a client or server. The Java Virtual Machine interprets the instructions. Java programs have full access to all the resources in the computer.