What is the default scope of Perl variables?

By default, all variables in Perl are global variables, which means they can be accessed from anywhere in the program. But you can create private variables called lexical variables at any time with the my operator.

Write any two advantages of Java Beans.

Exposure to other applications:

One of the most important advantages of a JavaBean is, the events properties and the methods of a bean can be exposed directly to another application.

Registration to receive events:

A JavaBean can be registered to receive events from other objects. However, we can also generate events that can be sent to other objects.

What is JAR file?

A Java Archive, or JAR file, contains all of the various components that make up a self-contained, executable Java application, deployable Java applet or, most commonly, a Java library to which any Java Runtime Environment can link.

Write the meaning of Introspection.

Introspection is the process of exposing the properties, methods, and events that a JavaBean component supports. This process is used in conjunction with the development tool at design-time. The default behavior of this process allows for the automatic introspection of any Bean.

What is RMI architecture?

In an RMI application, we write two programs, a **server program** (resides on the server) and a **client program** (resides on the client).

- Inside the server program, a remote object is created and reference of that object is made available for the client (using the registry).
- The client program requests the remote objects on the server and tries to invoke its methods.

List out the components of RMI.

The RMI system consists of three layers: **the stub/skeleton layer, the remote reference layer, and the transport layer.**

What is Callback in EJB?

Callback is a mechanism by which the life cycle of an enterprise bean can be intercepted. EJB 3.0 specification has specified callbacks for which callback handler methods are created. EJB Container calls these callbacks. We can define callback methods in the EJB class itself or in a separate class.

State the advantages of Servlets over other Server side technologies.

List the parameters of javamail_send class.

public interface JavaMailSender extends MailSender. Extended MailSender interface for JavaMail, supporting MIME messages both as direct arguments and through preparation callbacks. Typically used in conjunction with the MimeMessageHelper class for convenient creation of JavaMail MimeMessages , including attachments etc ...

Define the term MVC.

MVC Pattern stands for Model-View-Controller Pattern. This pattern is used to separate application's concerns. Model - Model represents an object or JAVA POJO carrying data. It can also have logic to update controller if its data changes. View - View represents the visualization of the data that model contains.

What are the subtypes of an entity bean?

There are three types of EJBs: **session beans, entity beans, and message-driven beans.**

- Session Beans.
- Entity Beans.
- Message-Driven Beans.

List the data types available in Perl.

Perl has three basic data types: scalars, arrays of scalars, and hashes of scalars, also known as associative arrays.

Write down the syntax of foreach loop in perl.

The syntax of a **foreach** loop in Perl programming language is

```
Foreach var (list){
       ……..
}
```

Define the term--Servlet.

A servlet is a Java programming language class that is used to extend the capabilities of servers that host applications accessed by means of a request-response programming model. Although servlets can respond to any type of request, they are commonly used to extend the applications hosted by web servers.

Give the meaning of JDK and BDK.

JDK is the Java Development Kit.

BDK is the Bean Development Kit.

Jdk is the standard Java developers kit to work in Java. Bdk is a product of Sun that include on top of Jdk other products to develop Java Beans.

How do HTML be linked with Servlet?

1. method="post"; to send the form data as an HTTP POST request to the server. Generally, form submission should be done in HTTP POST method.
2. action="URL of the servlet"; specifies relative URL of the servlet which is responsible for handling data posted from this form.

Write a note on SMTP.

SMTP stands for Simple Mail Transfer Protocol. SMTP is a set of communication guidelines that allow software to transmit an electronic mail over the internet is called Simple Mail Transfer Protocol. It is a program used for sending messages to other computer users based on e-mail addresses.

What is the major difference between JMS and RMI?

JMS allows applications to create, send, receive, and read messages. It enables distributed communication that is loosely coupled, reliable, and asynchronous. The RMI API enables Java technology-based client and server communications over a network.

Write down the syntax of JSP Comments.

JSP comment marks to text or statements that the JSP container should ignore. A JSP comment is useful when you want to hide or "comment out", a part of your JSP page.

Following is the syntax of the JSP comments −

`<%-- This is JSP comment --%>`

What is meant by 3-tier architecture?

3-tier architecture is a client-server architecture in which the functional process logic, data access, computer data storage and user interface are developed and maintained as independent modules on separate platforms. A "tier" in this case can also be referred to as a "layer"

Define: Scalar variable.

Scalar variables are used to represent individual fixed-size data objects, such as integers and pointers. Scalar variables can also be used for fixed-size objects that are composed of one or more primitive or composite types. D provides the ability to create both arrays of objects as well as composite structures.

Write an example for simple if statement in Perl.

The Perl simple if statement is used to execute the code if condition is true. The syntax of if statement is given below:

```
If(expression){
           //Code executed
           }
```

1. $a = 10;
2. If($a %2==0) {
3.   printf "Even Number\n"; }

What is the use of JAR file?

JAR stands for Java ARchive. It's a file format based on the popular ZIP file format and is used for aggregating many files into one. Although JAR can be used as a general archiving tool, the primary motivation for its development was so that Java applets and their requisite components

Define bound property of a bean.

A **bound** property notifies listeners when its value changes. This has two implications:

1. The bean class includes addPropertyChangeListener() and removePropertyChangeListener() methods for managing the bean's listeners.
2. When a bound property is changed, the bean sends a PropertyChangeEvent to its registered listeners.

Differentiate between HTTP get and post requests.

Both GET and POST method is used to transfer data from client to server in HTTP protocol but Main difference between POST and GET method is that GET carries request parameter appended in URL string while POST carries request parameter in message body which makes it more secure way of transferring data from client to server

Mention the methods in Servlet Context class.

getContextPath.getContext.getMajorVersion.getEffectiveMajorVersion.getEffectiveMinorVersion, getEffectiveMinorVersion.

How RMI differs from CORBA?

CORBA interfaces are defined in IDL and RMI interfaces are defined in Java. RMI-IIOP allows you to write all interfaces in Java (see RMI-IIOP). CORBA supports in and out parameters, while RMI does not since local objects are passed by copy and remote objects are passed by reference.

State the use of lookup() method.

public static final class **MethodHandles.Lookup**

A *lookup* object is a factory for creating method handles, when the creation requires access checking. Method handles do not perform access checks when they are called, but rather when they are created. Therefore, method handle access restrictions must be enforced when a method handle is created. The caller class against which those restrictions are enforced is known as the lookup class.

Write a note on POP3.

POP3 (Post Office Protocol 3) is the most recent version of a standard protocol for receiving e-mail. POP3 is a client/server protocol in which e-mail is received and held for you by your Internet server. Periodically, client e-mail receiver checks your mail-box on the server and downloads any mail, probably using POP3.

Expand the following:

(a) **MIME: Multipurpose Internet Mail Extension (MIME)**
(b) **CGI: Computer Generated Imagery**
(c) **HTTP: Hyper Text Transfer Protocol**

Write the purpose of rebind() method.

The rebind method always binds the name to the object even if the name is already bound. The old binding is lost. The unbind method removes the binding between the name and the remote object. It will throw the NotBoundException if there was no binding.

There are many advantages of Servlet over CGI. The web container creates threads for handling the multiple requests to the Servlet. Threads have many benefits over the Processes such as they share a common memory area, lightweight, cost of communication between the threads are low. The advantages of Servlet are as follows:

1. **Better performance:** because it creates a thread for each request, not process.
2. **Portability:** because it uses Java language.
3. **Robust:** JVM manages Servlets, so we don't need to worry about the memory leak, garbage collection, etc.
4. **Secure:** because it uses java language.

What is Session facade?

The Session Facade is a business-tier controller object that controls the interactions between the client and the participant business data and business service objects. In a complex application, there may be numerous Session Facades that can intermediate between the client and these objects

The Session Facade pattern's core application is development of enterprise apps. You can also call it a logical extension of GoF designs. The pattern encases the interactions which are happening between the low-level components, which is Entity EJB. It is implemented as a higher level component, Session EJB

Define the term BDK.

The Beans Development Kit (BDK) is intended to support the early development of JavaBeans™ components and to act as a standard reference base for both bean developers and tool vendors. The BDK provides a reference bean container, the "BeanBox" and a variety of reusable example source code (in the demo and beanbox subdirectories) for use by both bean developers and tools developers.

What is Introspection in Bean?

Introspection is the process of exposing the properties, methods, and events that a JavaBean component supports. This process is used at run-time, as well as by a visual development tool at design-time. The default behavior of this process allows for the automatic introspection of any Bean.