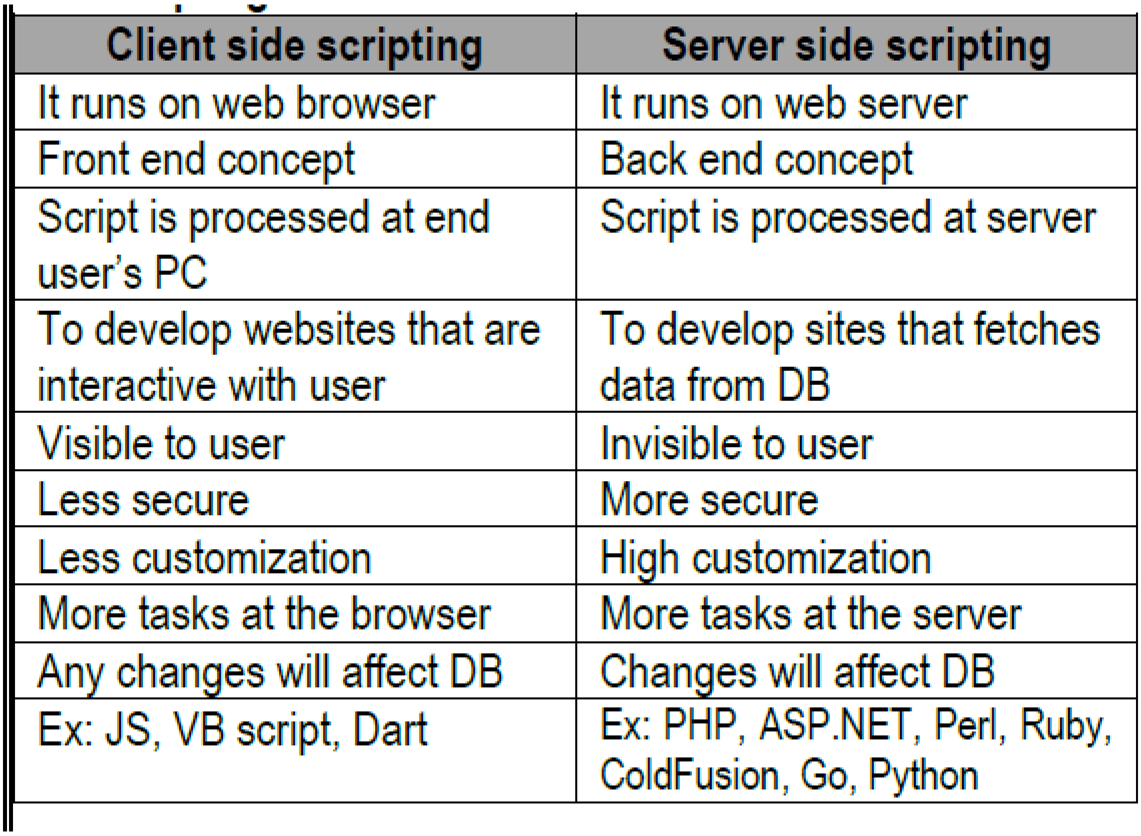
UNIT – 3

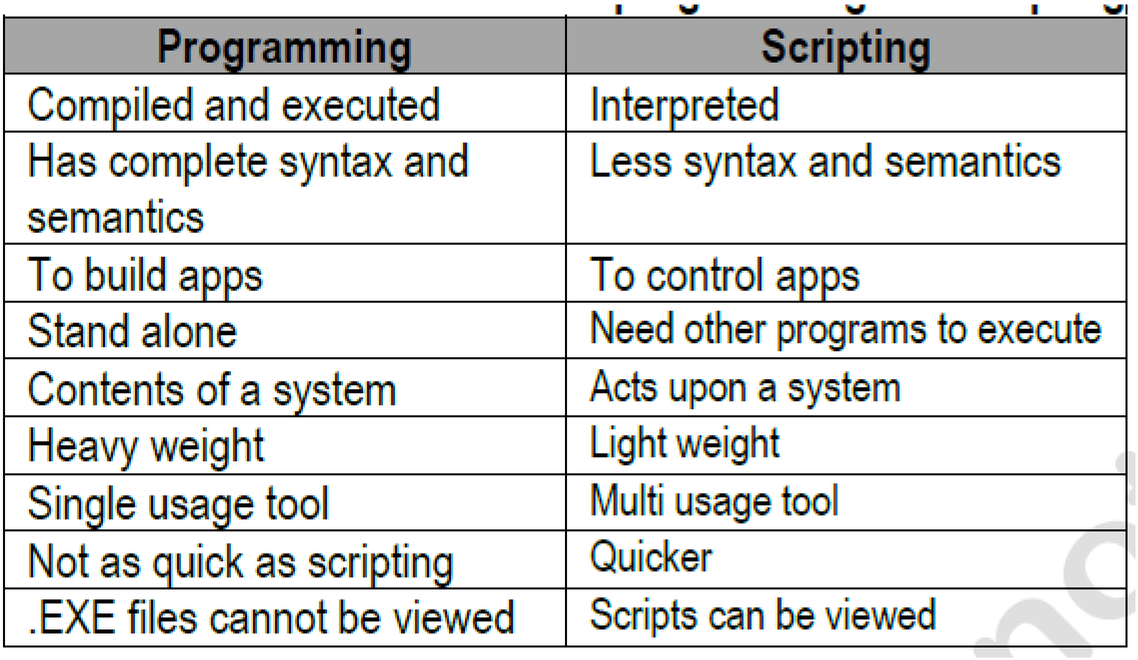
PART – A

1. **Mention the differences between client side and server side scripting.**



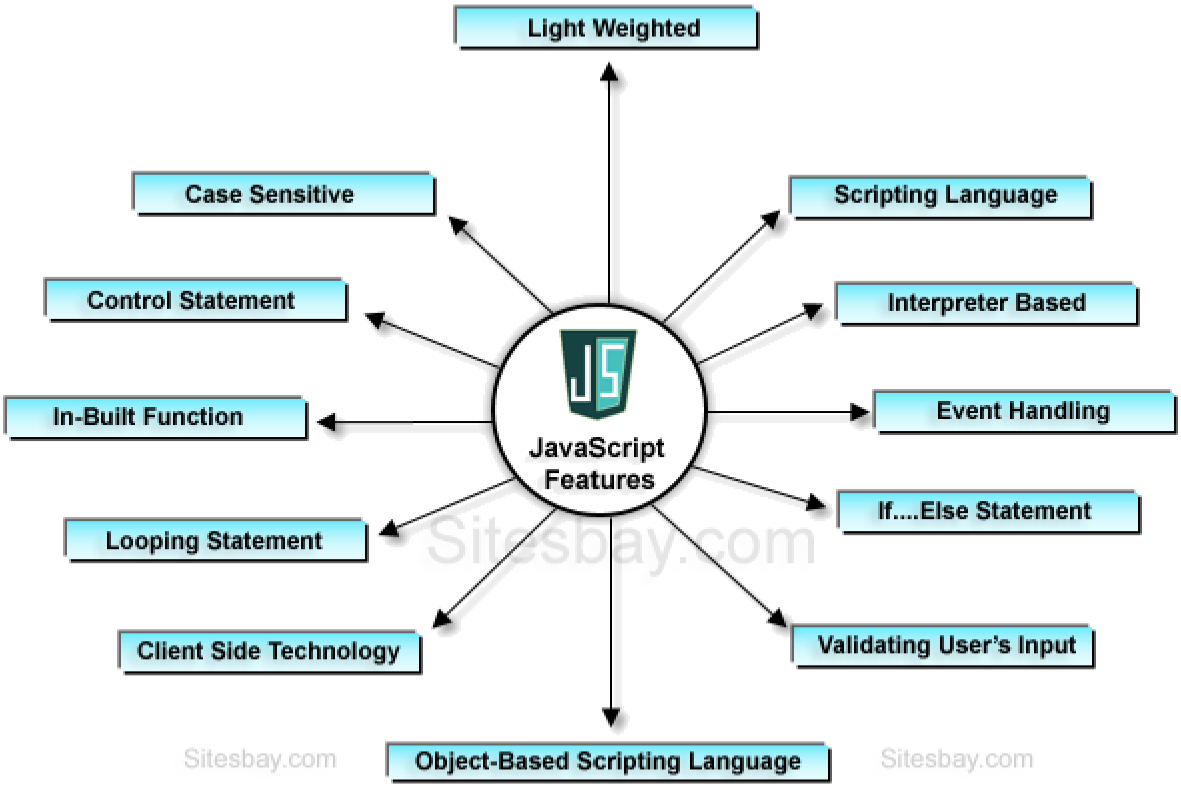
Client side scripting	Server side scripting
It runs on web browser	It runs on web server
Front end concept	Back end concept
Script is processed at end user's PC	Script is processed at server
To develop websites that are interactive with user	To develop sites that fetches data from DB
Visible to user	Invisible to user
Less secure	More secure
Less customization	High customization
More tasks at the browser	More tasks at the server
Any changes will affect DB	Changes will affect DB
Ex: JS, VB script, Dart	Ex: PHP, ASP.NET, Perl, Ruby, ColdFusion, Go, Python

2. **State the differences between programming and scripting.**



Programming	Scripting
Compiled and executed	Interpreted
Has complete syntax and semantics	Less syntax and semantics
To build apps	To control apps
Stand alone	Need other programs to execute
Contents of a system	Acts upon a system
Heavy weight	Light weight
Single usage tool	Multi usage tool
Not as quick as scripting	Quicker
.EXE files cannot be viewed	Scripts can be viewed

3. Mention the features of JavaScript.



4. What is DOM? What are the uses of DOM tree?

The DOM defines a standard for accessing documents:

"The W3C Document Object Model (DOM) is a platform and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure, and style of a document."

The W3C DOM standard is separated into 3 different parts:

Core DOM - standard model for all document types

XML DOM - standard model for XML documents

HTML DOM - standard model for HTML documents

DOM tree:-

Documents in DOM are represented using a tree like structure

Every element is represented as a node

This tree structure is called as DOM tree

Uses:-

To identify interface and object for representing and manipulating a document

To find behaviour and attributes of interface & object

To find relation between interface and object

5. **What are the levels of DOM?**
   Level 0 : To access few html elements (by Netscape in 1990s)
   Level 1: To change entire web page (1998)
   Level 2: Platform independent, language independent
   To access dynamically, update contents, structure, style
   Level 3: Platform independent, language independent
   To access dynamically, update contents, structure, style

6. **What are getElementByID() and innerHTML properties?**

- The getElementById function refers to the HTML element using its ID. The id property sets or returns the id of an element.

```
<script type="text/javascript">

   function ShowID() {

              var Getid = document.getElementById('TextMessage');

            alert(Getid.id);



</script>
```

- The InnerHTML property can be used to modify a HTML document. The innerHTML property exists in all types of the major browsers. When you use innerHTML, you can change the page's content without refreshing the page. This can make your website feel quicker and more responsive to user input.

  Syntax

```
        document.getElementById('ID of element').innerHTML = 'Data or content';
```

  Example

```
<script type="text/javascript">

    function ShowMessage() {

    document.getElementById('TextMessage').innerHTML = 'C-sharpCorner';



</script>
```

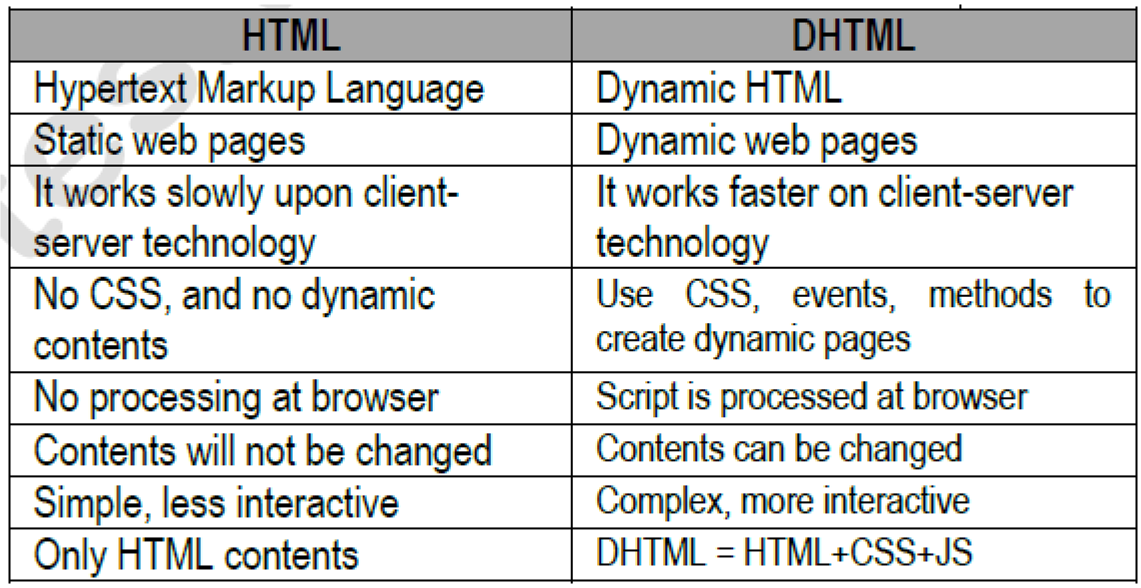
7. What is validation?

It occurs usually at the server, after the client had entered all necessary data and then clicked submit button.

If user enters some wrong/missing data, server has to send all the contents back to client and request for resubmission with correct information. This increases the task of a server

Javascript validates user's data at the browser, reduces the workload of a server.

8. What are the differences between HTML and DHTML?



HTML	DHTML
Hypertext Markup Language	Dynamic HTML
Static web pages	Dynamic web pages
It works slowly upon client-server technology	It works faster on client-server technology
No CSS, and no dynamic contents	Use CSS, events, methods to create dynamic pages
No processing at browser	Script is processed at browser
Contents will not be changed	Contents can be changed
Simple, less interactive	Complex, more interactive
Only HTML contents	DHTML = HTML+CSS+JS

9. Define servlet.

- Servlets are defined as simple java programs that are dynamically loaded and run on JVM of web servers, to respond to the requests from the clients. It acts as middle layer between browser and server
- To develop sites with secure access, interact with DB, maintain unique session info of each client. It is used with HTTP, hence called HttpServlet. It makes use of two packages: javax.servlet and javax.servlet.http.

10. What is servlet container?

The server that executes a servlet is called as servlet container or servlet engine. Browsers send an HTTP request to server, which in turn sends to servlet container. Servlet container receives the request from the server, processes appropriate servlet, sends back request.

11. What are the uses of cookies?

Identifying a user during an e-commerce session

Avoiding username and password.
Customizing a website as we want.
Focusing on advertising in web pages

12. What are the methods and phases of servlet life cycle?

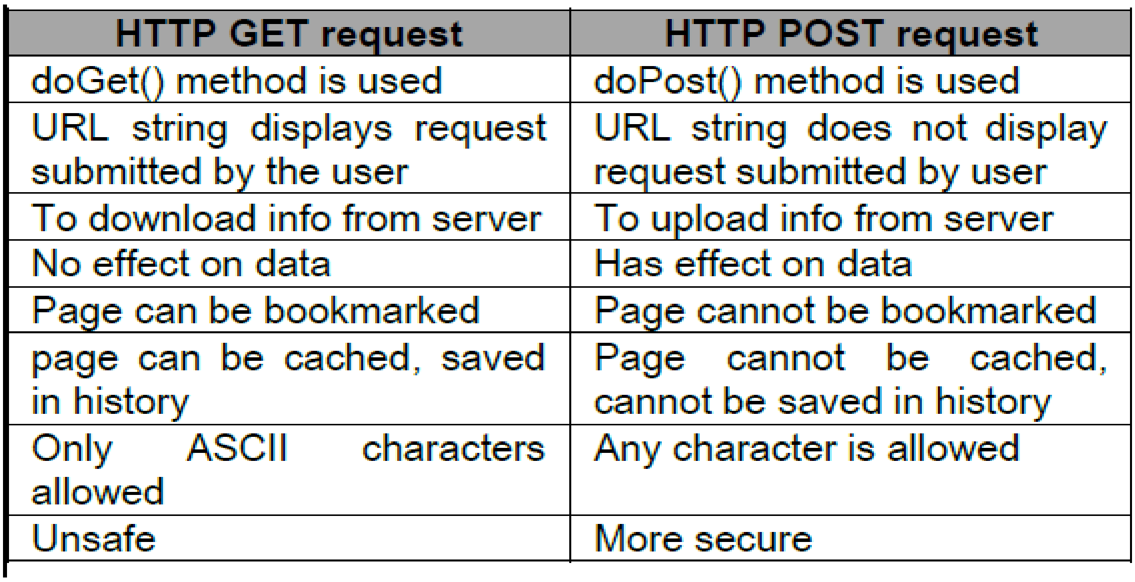
Methods:-

init(), service(), destroy()

Phases:-

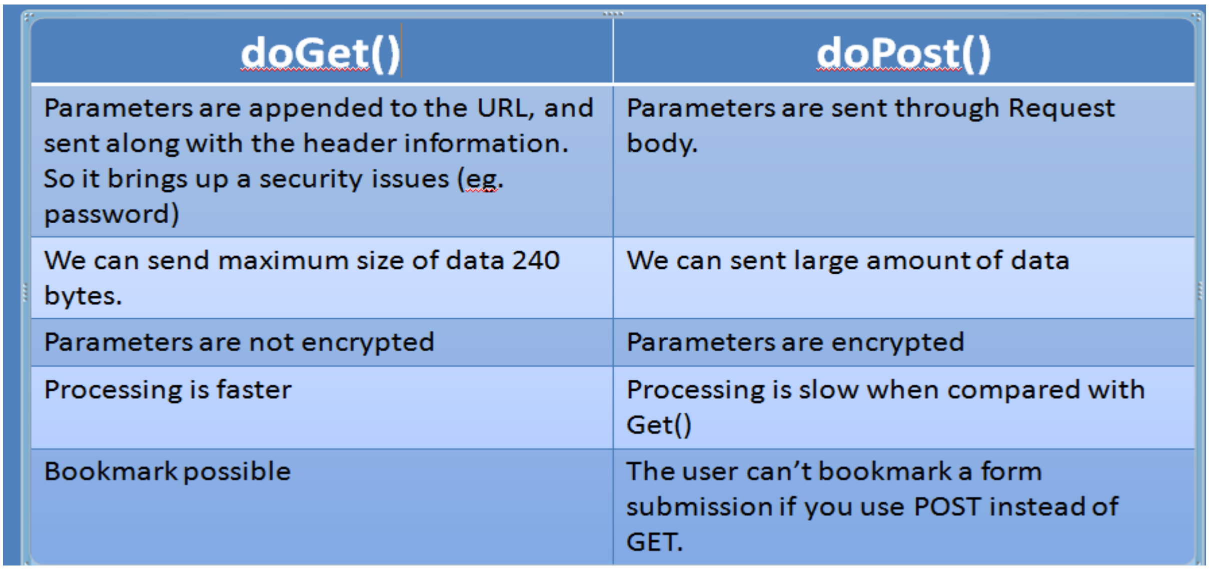
Phase 1: Servlet class is loaded
Phase 2: Servlet instance is created
Phase 3: init() method is invoked
Phase 4: service() method is invoked
Phase 5: destroy() method is invoked

13. Mention the differences between GET and POST.



HTTP GET request	HTTP POST request
doGet() method is used	doPost() method is used
URL string displays request submitted by the user	URL string does not display request submitted by user
To download info from server	To upload info from server
No effect on data	Has effect on data
Page can be bookmarked	Page cannot be bookmarked
page can be cached, saved in history	Page cannot be cached, cannot be saved in history
Only ASCII characters allowed	Any character is allowed
Unsafe	More secure

14. Differentiate doGet() and doPost() method.



doGet()	doPost()
Parameters are appended to the URL, and sent along with the header information. So it brings up a security issues (eg. password)	Parameters are sent through Request body.
We can send maximum size of data 240 bytes.	We can sent large amount of data
Parameters are not encrypted	Parameters are encrypted
Processing is faster	Processing is slow when compared with Get()
Bookmark possible	The user can't bookmark a form submission if you use POST instead of GET.

15. **What are session tracking techniques?**

Session tracking is a mechanism by which we can keep track of previous sessions between server and browser. Session ID is passed between client and server. HTTP cannot have any data about precious client-server communication (stateless). To achieve it, session tracking is used.

Techniques:-

Use cookies

Hidden form fields

URL rewriting

What is a cookie?Mention its types

A cookie is defined as short piece of data, not actually any source code, which is sent from a web server to browser when a browser visits the server's site.

Cookie = "name-value" pair

It is one of the session tracking technique. Cookie is a plain text data record of 5 fields: expiry time, domain, path, secure, "name=value"

Types:

- Persistent cookies
- Non-Persistent cookies

17. **What is hidden form field?**

A hidden text field is used for maintaining the state of a user. Here, information is stored in hidden field. It will not displayed on the webpage.

Ex: <input type="hidden" name="sid" value="abc123">

18. **What is URL rewriting?**

The process of adding the name of the user in the query string and getting the value from the query string in another page is called URL rewriting. "name-value" pairs are passed in URL

Ex: url?name1=value1&name2=value2&??

19. **What is JDBC? What are its uses? Mention its types.**

JDBC is defined as an API that provides industry standard and database connectivity between java apps and database servers. It is a framework that contains many classes, interfaces, exceptions, using which java apps can send SQL statement to database to store and retrieve data

Uses:-

It helps client to store and retrieve data to databases

It helps client to update databases

Types:-

JDBC-ODBC bridge driver

Partial java driver

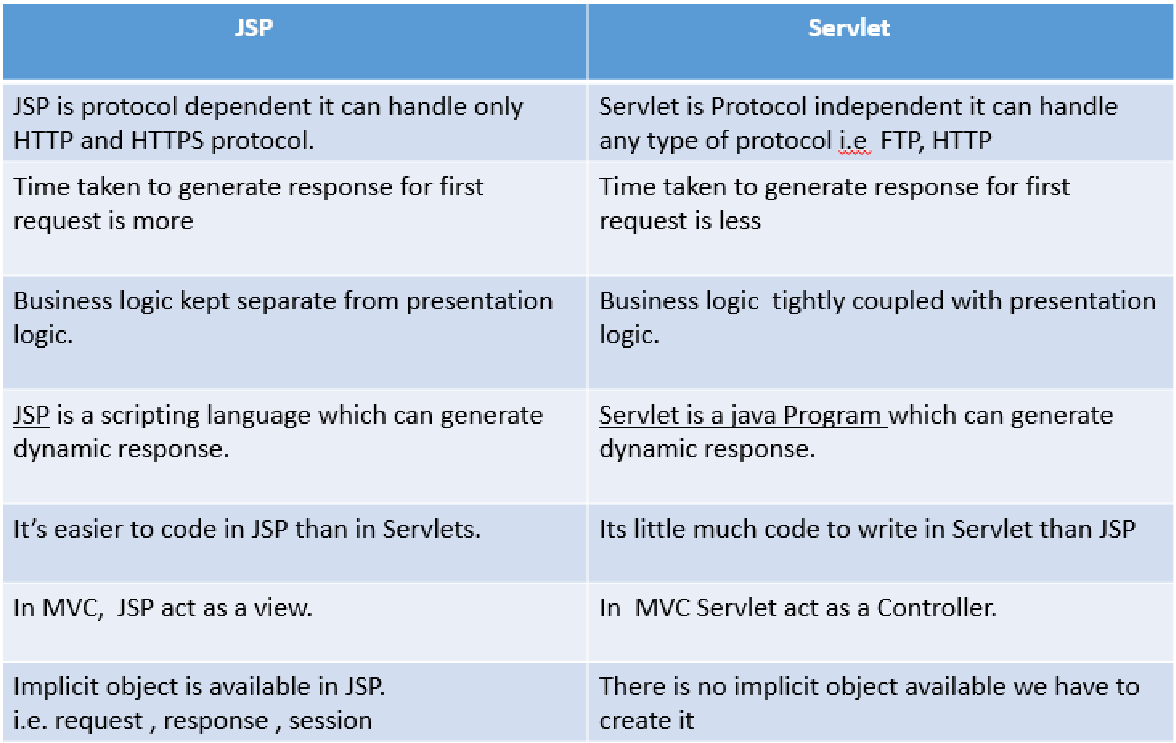
Pure java driver for accessing middleware
Pure java driver for direct DB access

20. What is JSP?

Java Server Pages is a kind of server side scripting language that enables user to embed java code with HTML elements for the creation of dynamic, platform-independent method for building web apps

JSP = Java + HTML + servlet

21. Differentiate JSP and Servlet.



JSP	Servlet
JSP is protocol dependent it can handle only HTTP and HTTPS protocol.	Servlet is Protocol independent it can handle any type of protocol i.e FTP, HTTP
Time taken to generate response for first request is more	Time taken to generate response for first request is less
Business logic kept separate from presentation logic.	Business logic tightly coupled with presentation logic.
JSP is a scripting language which can generate dynamic response.	Servlet is a java Program which can generate dynamic response.
It's easier to code in JSP than in Servlets.	Its little much code to write in Servlet than JSP
In MVC, JSP act as a view.	In MVC Servlet act as a Controller.
Implicit object is available in JSP. i.e. request , response , session	There is no implicit object available we have to create it

22. Define scriptlet.

A scriptlet can contain any number of Java language statements, variables or method declarations, or expressions that are valid in the page scripting language.

23. What is JSTL?

The JavaServer Pages Standard Tag Library (JSTL) is a collection of useful JSP tags which encapsulates the core functionality common to many JSP applications. JSTL has support for common, structural tasks such as iteration and conditionals, tags for manipulating XML documents, internationalization tags, and SQL tags. It also provides a framework for integrating the existing custom tags with the JSTL tags.

24. What are the classifications of JSTL tags?

- Core Tags
- Formatting tags

- SQL tags
- XML tags
- JSTL Functions

25. What are HttpServletRequest and HttpServletResponse?

They are two commonly used interfaces from javax.servlet.http package
HttpServletRequest enables servlet to read data from HTTP request
HttpServletResponse enables servlet to write data to HTTP response

What are the primitive data types in javascript?

A primitive data type is data that has a primitive value.
JavaScript defines 5 types of primitive data types:

- string
- number
- boolean
- null
- undefined

27. What are the different types of objects in JavaScript?

- JavaScript Number Object
- JavaScript Boolean Object
- JavaScript String Object
- JavaScript Array Object
- JavaScript Date Object
- JavaScript Math Object
- JavaScript RegExp Object

28. Justify "JavaScript" is an event-driven programming" .

Javascript supports event driven programming. when user clicks the mouse or hit the keys on the keyboard or if user submits the form then these events and response to them can be handled using javascript. Hence javascript is mainly used in web programming for validating the data provided by the user.

29. How to create arrays in Javascript?

We can declare an array like this
Var scripts = new Array();
We can add elements to this array like this
scripts[0] = "PHP";
scripts[1] = "ASP";
scripts[2] = "JavaScript";
scripts[3] = "HTML";

Now our array scrips has 4 elements inside it and we can print or access them by using their index number. Note that index number starts from 0. To get the third element of the array we have to use the index number 2. Here is the way to get the third element of an array. document. write (scripts[2]); We also can create an array like this
var no_array = new Array(21, 22, 23, 24, 25);

30. Write a simple program in JavaScript to validate the email-id.

```
<!DOCTYPE html>
<html>
<head>
<script>
function validateForm() {
var x = document.forms["myForm"]["email"].value;
var atpos = x.indexOf("@");
var dotpos = x.lastIndexOf(".");
 if (atpos<1 || dotpos<atpos+2 || dotpos+2>=x.length) {
alert("Not a valid e-mail address"); return false;}}
</script>
</head>
<body>
<form name="myForm" action="demo_form.asp" onsubmit="return validateForm();"
method="post">
Email: <input type="text" name="email">
<input type="submit" value="Submit">
</form> </body> </html>
```