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Assignment - 01.

* Web technology theory assignment:
Sr. 49. - Q. 46 to 50.

(46). Explain how session and cookies are used for session management in PHP.

→ • In php sessions and cookies are two essential mechanisms used for session management, which is the process of maintaining user specific data across multiple page requests.

1) How cookies in php work -

• A cookie is a small peice of data stored on the client side (browser) and sent to the server with every request.

• Used to store small amounts of data like user preferences, last visited time, etc.
• persistent across browser sessions (can be set to expire after a certain time).

• Set a cookie in php -

```
setcookie ("username", "JohnDoe", time() + (86400 * 7)
    , "7"); // Expire in 7 days.
```

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- Accessing a cookie -

```
echo $_cookie ["username"];
```

- Limitations of cookies -
  - → User can disable cookies in the browser.
  - → Not secure (stored on client side).
  - → Limited storage (usually upto 4kb).

2) Sessions in PHP -

- A session stores user information on the server side for the duration of user's interaction with the web application.
- When a session is started PHP generates a unique session ID.
- This session id is stored as a cookie on client side. (default - PHPSESSID).
- All session data is stored on the server and linked to session ID.

- How to start a session -

```
session_start();
```

- Store data in a session -

```
$_SESSION ["username"] = "John Doe";
```

- Access session data -

```
echo $_SESSION ["username"];
```

- Destroying a session -
  session_destroy().

(47) How does ASP.NET works? Also enlist the features of ASP.NET?

→ • ASP.NET is a web application framework developed by Microsoft that enables developers to build dynamic websites, web applications and web services. It runs on top of the .NET framework (or .NET Core / .NET 5+ for modern versions).

- Working of ASP.NET. -

1. Client request - user sends request via browser.
2. The request hits IIS (Internet Information Service) and IIS identifies the file type (.aspx, .cshtml). and forwards it to ASP.NET engine.
3. HTTP pipeline processes the request.
4. ASP.NET creates a page object or controller in MVC. based on request
5. Execution of code. - Server side logic executes (accessing database, processing user input).
6. It sends final HTML output back to client (browser) as a response. Browser renders it to HTML user.

4.

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- Features of ASP.NET -

- Compiled code - ASP.NET uses compiled code (C#, VB.NET), which runs faster than interpreted scripts.
- State management - Provides tools like session, view_state, cookies, for maintaining user data.
- Rich server controls - Built in server side controls simplify form and UI creation.
- Component based - pages can be divided into components.
- Built in security - Supports authentication, authorization, roles, and secure data handling.
- Event driven MVC forms.
- Asynchronous programming - methods for scalability and programming.
- SEO friendly URLs.
- Cross platform - runs on windows, linux, MacOS.
- Tool support - Integration with IDEs.

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(48). Write advantages of JSP over servelets, also explain life cycle of JSP.

→ • Advantages of JSP over servelet are –

1) JSP allows embedding Java code directly into HTML using tags like <% %>. Easier for UI development.

2) Promotes separation of presentation (HTML) and logic (Java).

3) Easier to update and maintain because its more readable and HTML like.

4) Provides implicit objects like request, response, session, etc.

5) JSPs are automatically compiled into Servlets by container (eg tomcat).

6) Designers can work on JSPs without needing deep java knowledge.

• LIFE CYCLE OF JSP –

*• Jsp life cycle is managed by web container (like apache tomcat) and similar to servelet life cycle.

* Phases are –

1. Translation phase –
   • The JSP file is translated into a servelet by the container.

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2. Compilation phase - A generated servelet is compiled into a class file.

3. Instantiation phase - An instance is compiled JSP is created.

4. Initialization phase - Called once when JSP is loaded. used to initialize resources like (eg. DB Connection). jsp init().

5. Request processing phase (-jspService()) -
   - Called each time the JSP is requested.
   - The actual logic of handling request and generating response happens here.

6. Destruction phase - jspdestroy() -
   - Called when JSP is taken out of service.
   - used to release resources.

(43). Write a code to create a PHP script to create a new database with 4 fields of your choice. and perform these operations. i) Insert ii) Delete iii) Update. iv) Display.

→ Program is as follows -

```
<? php
    $conn = new mysqli ("localhost", "root", " ", "simple-db");
```

```
$conn → query ("Create database if not exists simple-db");
$conn → query ("Create table if not exists students
        (id INT auto-increment primary-key,
        name varchar(50), email varchar(50),
        course varchar(50), age INT)");

$conn → query("INSERT into students values ('John',
        'john@email.com', 'PHP', 20)");
$conn → query("UPDATE students SET course = 'WebDev'
        where name = 'John'");
$conn → query ("DELETE from students where name =
        'Mark'");
$result = $conn → query ("SELECT * FROM Students");
echo "<table>";
while ($row = $result → fetch-assoc()) {
    echo "<tr><td>{$row['id']}</td><td>
        {$row['name']}</td><td>{$row['email']}
        </td><td>{$row['course']}</td><td>
        {$row['age']}</td></tr>";

echo "</table>";
$conn → close();
?>
```

Hence, this program covered all operations of the given statement.

→

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(50). Explain life cycle of ASP.NET -

→ The phases are as follows -

1. Page request - Occurs when a user requests an .aspx page. It checks whether the page needs to be compiled or a cached version can be served.

2. Start - ASP.NET sets up basic page properties like -
• request • response • Is post back • UICULTURE.

3. Initialization - All controls on page are initialized. Each control gets a unique id. Settings like themes or master pages are applied.
Event - page_init().

4. Load - page_load() - Page is being loaded due to postback, control properties are restored. You can access form values and other data.

5. Post-back event handling - Result of post back, it calls event handlers like button click.

6. Rendering - It converts page controls into HTML and sent to browser.

7. Unload - Final clean up tasks, all objects are unloaded, after response completion.

Hence, this is how life cycle of ASP.NET is carried out.