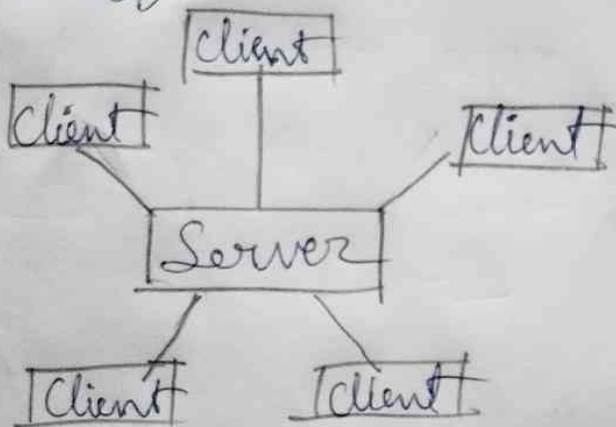Name :- Soham Kundu

Section :- CE

Roll No. :- 41

Q1) A server needs to be connected to 5 clients. Demonstrate any three topologies to make such connections through differents diagrams. Name each topology and an advantage of each of the topology and offered.
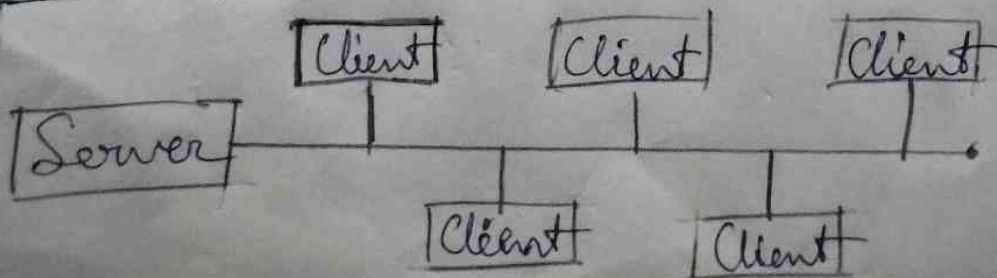
=# **Star topology :-**

Star topology consist of a central node to which other nodes are connected by a single path.

◘ **Advantage :-**
• Simple access protocols.
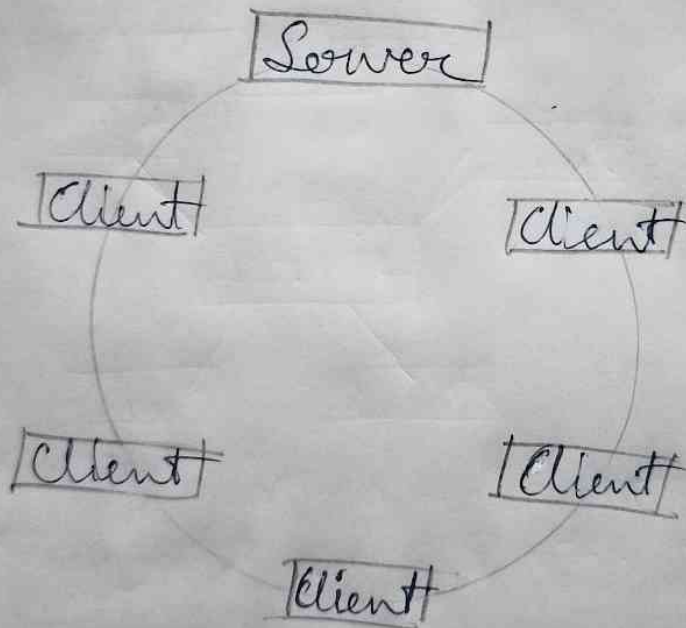• Ease of service

Bus topology

This consist of a single length of the transmission medium onto which the various nodes are attached

☒ Advantage :-
• Short cable length.
• Easy to extend.

Ring topology

Server

Client   Client

Client   Client

Client

It form a ring connecting devices with exactly two neighboring devices. A number of repeaters are used for Ring topology ~~~~~~~~ with a large number of nodes.

☒ Advantage
• Short cable length
• Cheap to install.

Q2) Enlist any two characteristics of http. Differentiate between http and https.
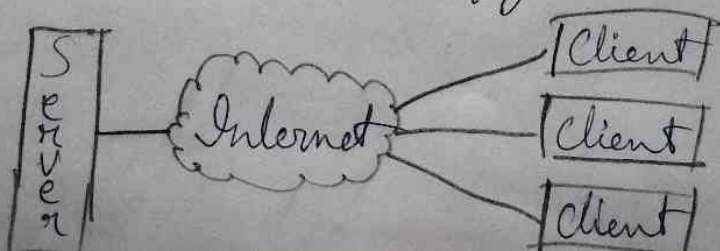
⇒ <u>Characteristics of http:-</u>

i) It is a connectionless protocol because after the connection is closed the server does not remember anything about the client and the client does not remember anything about the server.

ii) It is a stateless protocal because both client and server do not expect anything from each other but they are still able to communicate.

HTTP	HTTPS
■ Hypertext transfer protocol.	■ Hypertext transfer Protocol Secure
■ It is considered to be unsecured.	■ It is considered Secured
■ HTTP does not improve Search ranking	■ It helps to improve search ranking.

Q3) Draw a neat diagram of a Client Server Architecture. Explain each components breafly.

Components of client server architecture are:-

• **Workstations:-**
It is the system of users that are sometimes also named as 'Client Computer'.

• **Server:-**
An ultra-performance device that retain a fast processing speed with more storage & robust memory to deal with multiple requests approching simultaneously from various workstation.

• **Networking Devices:-**
Workstation and server are interconnected with each other by means of specific medium.

Q9) Create a webpage that displays the name of and photograph of the CEOs of the following IT Organization:-
@ Microsoft Corporation.
ⓑ IBM
ⓒ Accentrore
ⓓ Oracle
ⓔ Amazon Inc.

⟹
```
<html>
<head>
<title> CEOs of IT Organization </title>
</head>

<body bg color = "Orchid>

<table align = "center" Cellspacing = "20">
< caption><font color = "blue"><h1> <U>
The name and photographs of CEOs of various IT Organiza-
tion </U> </h1> </font> </ caption>
```

```html
<tr bgcolor="pink" align="center">
<td> <h2> Microsoft Corporation </h2>
<img src="Satya.jpeg" alt="Satya Nadella")
<h3><em> Satya Nedella </em></h3></td>
<td> <h2> IBM></h2>
<img src="Arvind.jpeg" Alt="Arvind Krishna>
<h3><em> Arvind Krishna</h3></em></td>
<td> <h2> Accenture </h2>
<img src="Julle.jpeg" alt "Julle Terese")
<h3><em> Julle Terese </em> </h3> </td>
<td> <h2> Oracle </h2>
<img src="Safra.jpg" Alt="Safra Ada Catz">
<h3><em> Safra Ada Catz </em> </h3> </td>
<td> <h2> Amazon Inc </h2>
<img src="Andrew.jpg" alt="Andrew R. Jassy")
<h3><em> Andrew R. Jassy> </em> </h3> </td>
</tr> </table>
</body>
</html>
```

Q5) Create a webpage that displays the following content on browser.

```html
<html>
<head>
<title> Question 5 </title>
</head>
```

```
<h1><pre> &lt; html &gt;
&lt; head &gt;
&lt; title &gt; Assigment 1 &lt; / title &gt;
&lt; /head &gt;
&lt; body &gt;
Content of web page should be displayed
&lt; /body &gt;
&lt; /html &gt; </pre> <h1>
</body>
</html>
```

Q6) Create a webpage that displays the mathematical formula for the following

(a) Area of circle
(b) Trignometric Identities with angle alpha(α)
(c) Square of (a+b)
(d) Cube of (a+b)
(e) Difference b/w squares of two variable
(f) Gravitational force
(g) ~~Gravita~~ Kinetic Energy
(h) Relation b/w density (P), mass and volume
(i) Relation b/w mass & energy.

Use table to display the formula use CSS to display acceptable look and feel.

=>
```
<html>
<head>
<title> Methematical formula < / title>
<Style>
body { background-color: green; }
table { background-color: skyblue; }
```

```html
caption { font-size : 25 ; color :red ; }
th { font- size :30;}
td { font-size : 20;}
</style> </head>

<body>
<table border border =10' align= "center"
<caption><h1>Some mathematical formula </h1></caption>
<tr> <td> Area of Circle </td>
<td> Area = &pi; radius <sup>2</sup> </td> </tr>
<tr> <td> Trigonometric identities with angle alpha
(& alpha;) </td>
<td><li> Sin (180&deg;-&alpha;) = Sin & alpha; </li>
<li> Cos (180&deg; -&alpha;) = Cos&alpha; </li>
<li> Cosec (180&deg; -&alpha;) = -cosec alpha; </li>
<li> Sec (180&deg; -&alpha;)= -Sec & alpha; </li>
<li> tan (180&deg;-&alpha;)= -tan& alpha; </li>
<li> cot (180&deg;-&alpha;) =-cot & apha; </li></td>
</td> </tr>
<tr> <td> Square of (a+b) </td>
<td> (a+b) <sup>2</sup> = a<sup>2</sup> + b<sup>2
</sup> + 2ab.</td> </tr>
<tr> <td> Cube (a+b) </td>
<td>(a+b)<sup>3</sup> = a<sup>3</sup>+ b<sup>3</sup>
+3 ab(a+b) </td> </tr>
```

```html
</tr> <td> Difference between squares of two variables
(a,b) </td>
<td> a <sup>2</sup> - b<sup>2</sup> <sup> = (a+b)(a-b) </td>
</tr> <tr> time period of a pendulum (T) </td>
<td> .T= 2&pi; &#8730; L/g </td></tr>
<tr> <td> Gravitational force (F) </td>
<td> F = (GMm)/r<sup>2</sup> </td> </tr>
<tr> <td> Kinetic Energy (K.E.) </td>
<td> K.E. = &frac12; mv<sup>2</sup> </td> </tr>
<th> <td> Relation b/w mass (m) & Energy (m) </td>
<td> E = mc <sup>2</sup> </td> </tr>
<tr> <td> Relation between density (&rho;), mass (m),
and volume (V) </td>
<td> &rho; = m/v </td> </tr>
</table>
</body>
</html>
```

Q7) Create a webpage that displays a registration page for an organization named ABC INFOTECH. It should ask the user to input the following details for registering the user for recruitment:

ⓐ User Name
ⓑ Password
ⓒ Confirm Password

(b) Email Id.
(c) Contact Number.
(d) Gender
(e) Highest Qualification
(f)(h) Languages Known (English, Hindi)
(i) Preferred programming Language (C++, Java, Python)
(j) Two lines to describe yourself.

Use tables to display labels and input fields in proper alignment. Use CSS to display with acceptable look and feel. Apply html5 validations as follows:
(a) No field should be left blank.
(b) Mobile number should take digits only.
(c) Email should be in correct format.

⟹
```html
<Html>
<head>
<title> ABC Infotech INFOTECH </title>
<style>
body {backgroud-color: aquamarine;}
table {border: 2px solid black; background-color: aqua;}
caption {color: red}
td {border: 1px solid black; vertical-align: top;}
</style> </head>
<body>
<form method="post"> <table
<table align = "center">
<Caption> <h1> <u> REGISTRATION FORM <U> </h1>
<Caption>
```

```html
<tr><td>Name </td><td><input type='text' name='t1' required></td></tr>
<tr><td>Password </td><td><input type='password' name='t2' required></td></tr>
<tr><td>Confirm Password</td><td><input type='password' name='t3' required></td></tr>
<tr><td>Email Id</td><td><input type='email' name='t4' required></td></tr>
<tr><td>Contact Number</td><td><input type='number' name='t5' required></td></tr>
<tr><td>Gender</td><td><input type='radio' name='gen' value='male'>Male<input type='radio' name='gen' value='female'>Female</td></tr>
<tr><td>Highest Qualification</td>
<td><select name="HQual">
<option>Undergraduate</option>
<option>Graduate</option>
<option>Postgraduate</option>
</select></td>
<tr><td>Language Known</td><td><input type='checkbox' name='t6' value='english'>English
<input type='checkbox' name='t6' value='hindi'>Hindi</td>
</tr><tr><td>Prefered programming Language</td><td>
<input type='checkbox' name='t7' value='java'>Java
<input type='checkbox' name='t7' value='C++'>C++
<input type='checkbox' name='t7' value='Python'>Python</td>
</tr>
```

```
<tr> <td> Two lines to describe yourself </td> <td>
<textarea> rows="2" cols= "20" required> </textarea> </td> </tr>
<th colspan 2" > <input type = 'Sumbit' value= 'Submit'/>
</th> </table> </form>
</body>
</html>
```

Q8) Create a website that contains three webpages
namely Index.html, page 1. html & page 2. html. This
page shall display a list of 5 Universities in the form of
ordered list having symbols a, b, c, d, and e. It should
also have a hyperlink NEXT to move to the next page.
The next page shall display a list of next 5 Universities
in the form of ordered list having symbols f, g, h, i
and j. The page shall have two hyperlinks: PREVIOUS
and NEXT, which does their respective tasks. The last
page shall display a list of next 5 Universities in the
form of ordered list having symbols K, l, m, n and O.
the page shall also contain two hyperlinks to move to the first
and the second page respectively.

=> Index. html
```
<html>
<body> <head>
<title> List of Universities </title>
</head>
<body>
<h1> List of Universities :- </h1>
```

```html
<ol type='a' start='1'>
<h2> <li> Andra University
<li> Banaras Hindi University
<li> Amity University
<li> Hindu Institute of Science
<li> Aligard Mushlim University
<h2> </ol>
<a href='page7.html> NEXT</a>
</body>
</html>
```

Page 7. html
```html
<html>
<head>
<title> List of University (2):-</title>
</head>
<body>
<ol type='a' start='6'>
<h2> <li> Dr. A.P.J. Abdul Kalam Technical University
<li> Punjab University
<li> University of Delhi''
<li> University of Calcutta
<li> Chandra Shekhar Azad University.
</h2> </ol>
<a href="page2.html"> NEXT</a>
<a href='index.html'> PREVIOUS </a>
</body>
</html>
```

page 2. html

```html
<html>
<head>
<title> List of Universities -3 </title>
</head>
<body>
<h1> List of Universities (3):- </h1>
<ol type='a' start="11">
<h2> <li> University of Mumbai
<li> Gautam Budha University
<li> University of Kerala
<li> Assam Science & Technology University
<li> Jadavpur University
</h2> </ol>
<a href='page1.html'> PREVIOUS </a>
<a href='index.html'> 1st Page </a>
</body>
</html>
```