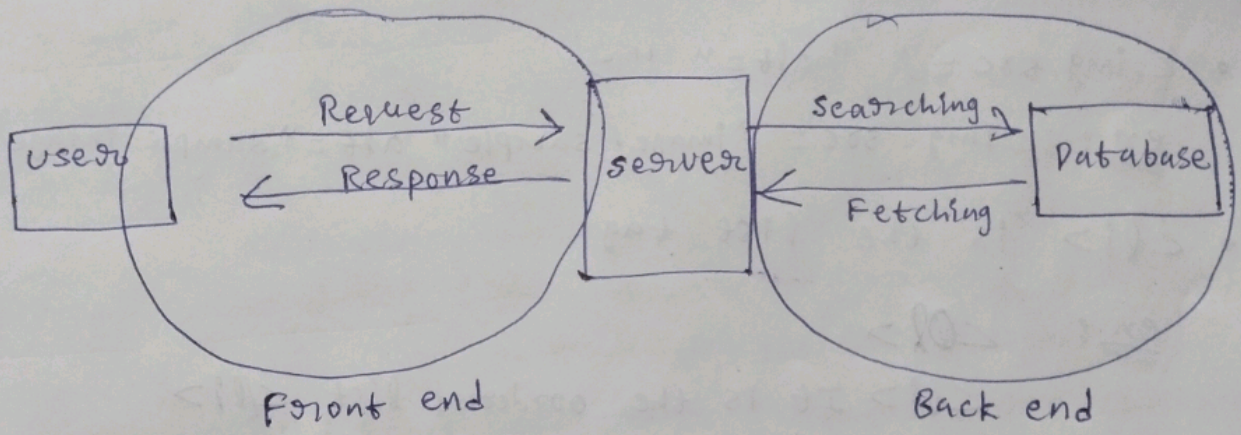
Part - A (theory)

① Working of Internet website in terms of front-end and back-end division:



- Front end refers to the visible and interactive part of a website that users interact with directly.
- Front end take request from the user and gives response
- Back-end refers to the server-side of a website that handles the behind-the-scenes operations and data processing. It consists of a combination of server-side programming languages, databases and server infrastructure.

② Tags in HTML :

- <P> tag is used to write the paragraphs

ex: <P> Hello world </P>

- <img src = " " alt = " " >

ex: <img src = "image. sample" alt = "sample image" >

- is the list tag

ex:
```
<ol>
<li> It is the ordered list </li>
<li> Represents numbers </li>
</ol>

<ul>
<li> It is unordered list </li>
<li> Represents dots </li>
</ul>
```

- <tr>, <th>, <td> these are used for table tags.

ex:
```
<tr>
    <th> Name </th>
</tr>

<tr>
    <td> Vishnusai </td>
</tr>
```

- <h1> is used for largest heading

<h1> Hello </h1>

③ Working procedure of virtual DOM :

1. Initial Render : when a react component is first rendered. It creates a virtual representation of the DOM in memory called the virtual DOM.

2. virtual DOM updates : when there are changes to the components state, React re-renders the virtual DOM.

3. Diffing : React performs a process called diffing, to determine the changes needed to update actual DOM

4. DOM manipulation : It updates the real DOM by applying only those specific changes.

5. Reconciliation : React efficiently reconciles the changes in the virtual DOM with the actual DOM.

④

MySQL	NOSQL
- Represents data as tables and rows.	- Does not represents data as tables and rows.
- Relational database	- Non- Relational database
- Based on the tables	- Based on the documents
- The schema is rigid	- The schema is dynamic
- Inserting new columns or fields affect the design.	- NO effect on the design with the insertion of new columns.

⑤ DBMS technology :

- Software systems used to store, retrieve and run queries on data.
- Take MySQL
- MySQL is an open-source relational database management system that is widely used to building ~~for~~ web applications and powering dynamic websites.

It is known for its scalability, reliability and ease of use.

Some key features of MySQL :

- Data management
- Querying and Reporting
- Data security
- Scalability and Performance
- Community support