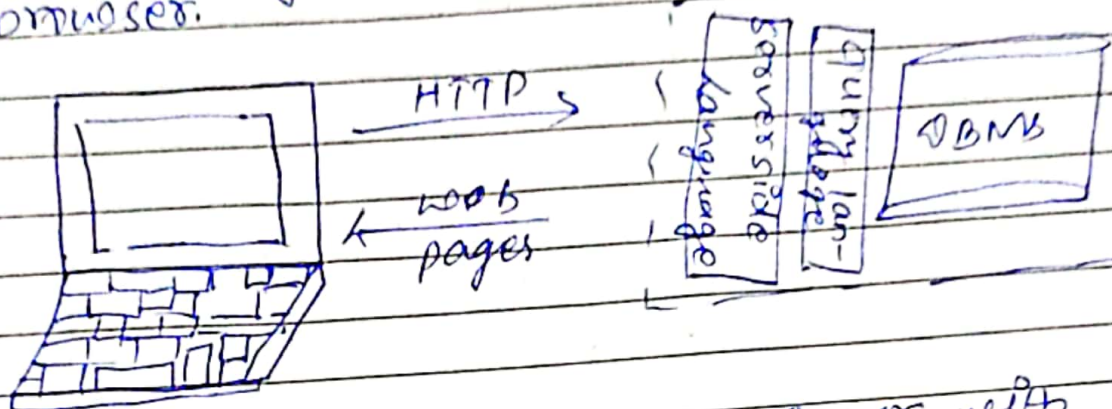## 8.1 Explain server side technology with example.

Server-side technology refers to the dynamic generation of web pages served up by the web server, as opposed to static web pages in the server storage that are served up to the web browser.

HTTP →

← web pages

DBMS

Linux/windows IOS operating system running web browser

web server with server-side scripting language and DBMS

It can encompass a range of software solutions mainly, server-side scripting language DBMS, web server software such as Apache and many others technologies depending upon the application being built. The essential combination of technologies required to built a service known as software solution stack, known as LAMP.
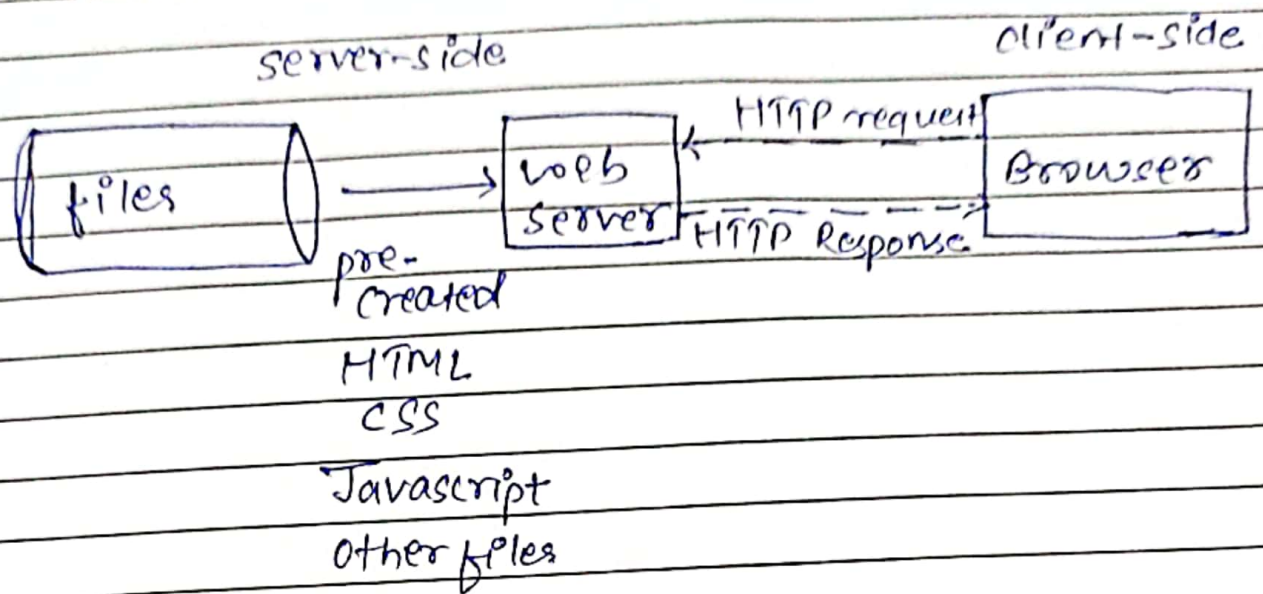
L = Linux
A = Apache
M = MySQL
P = PHP

a) Why server side processing used?

Ans. Server-side processing is used to interact with permanent storage like database or files. Here code is executed on the web server and the results of processing are sent back to the client in the HTML to be displayed in the web browser.

Examples of server-side processing are user validation, saving and retriving data, and navigating to other pages.

The disadvantages of server-side processing is the page postback: it can introduce processing overhead that can decrease performance and force the user to wait for the page to be processed and recreated. Once the page is posted back to the server the client must wait for the server to process the request and send the page back to other client.

3. what is the use of server side technology and client side technology?

→ Server side technology process the input given by client side technology. For example developers can use PHP to connect a database to a website and send user-inputted data to the database. meanwhile client-side development gathers input from users. for example. developer can use Javascript to create forms that collect user's input.

4. What is window server & proxy server & why they are important?

→ windows server is a line of operating systems that microsoft specifically creates for use on a server. It is important because they are extremely powerful machines that are designed to run constantly and provides resources for other computer. This means in all most all cases, windows server is only used in business settings.

Proxy server act as a bridge a host server and a client server. A proxy server sends data from a website to your computer IP address after it passes through the proxy server's. This practice adds a layer of security since the information is requested then transferred from the source to the proxy server and never directly from a client to another user.

5. what is web mining?

Web Mining is the process of Data Mining techniques to automatically discover and extract information from web document and services. The main purpose of web mining is discovering useful information from world-wide web and its usages patterns.

6. What are the three main areas of the web mining?

→ web mining can be baardly divided into three different types of techniques of mining. They are:

• Web content mining:-
web content mining is the application of extracting useful information from the content of the web documents. Web content consits of several types of data- text, images audio, video etc. It can provide effective intresting patterns about user needs.

• Web structure Mining:-
web structure mining is the application of discovering structure information from web. The structure of the web graph consists of web pages as nodes and hyperlinks as edges connecting related pages. To determine the connection between two commercial web, webstructure mining can be very useful.

○ **Web Usages Mining:-**
Web usage Mining is the application of identifying or discovering intresting usage pattern from the large datasets. And these patterns enables us to understand the user behaviours or something like that. In web mining usage mining, user access data on the web and collect data in form of logs.

7. **What kind of data is used for web usage mining?**

→ The main sources of data in web usage Mining is web server & application server. The data in this type of web mining can be categorized into three types based the sources it comes from!
  ○ Server-side
  ○ Client side
  ○ Proxy side

There are other additional data sources also which includes the following :-
  ○ cookies
  ○ demographics and so on.

8. what are some main challenges to
(i) social media analytics
(ii) Sentiment Analytics.

These are the main challenges to
social media analytics.

○ Dispassionate Data:
    The informal environments of social
media platforms encourages to use colloquial
and personal elements in their languages.

○ The Numbers Don't Add Up:-
    The number of likes on a brands page
don't accurately reflect actual engagemen
or conversions. This often results in lack
of tangible return on investment, even
for successful campaigns.

○ The Incomplete picture:
    The contrasts between people within
social media ecosystems are just notable
as they are just browsing through.

○ Data Relevance & Quality:-
    The quality of online data being
analysed is always a concern among
enterprises. social media platforms are
littered with fake and duplicate
profiles.

    There are several defined elements in
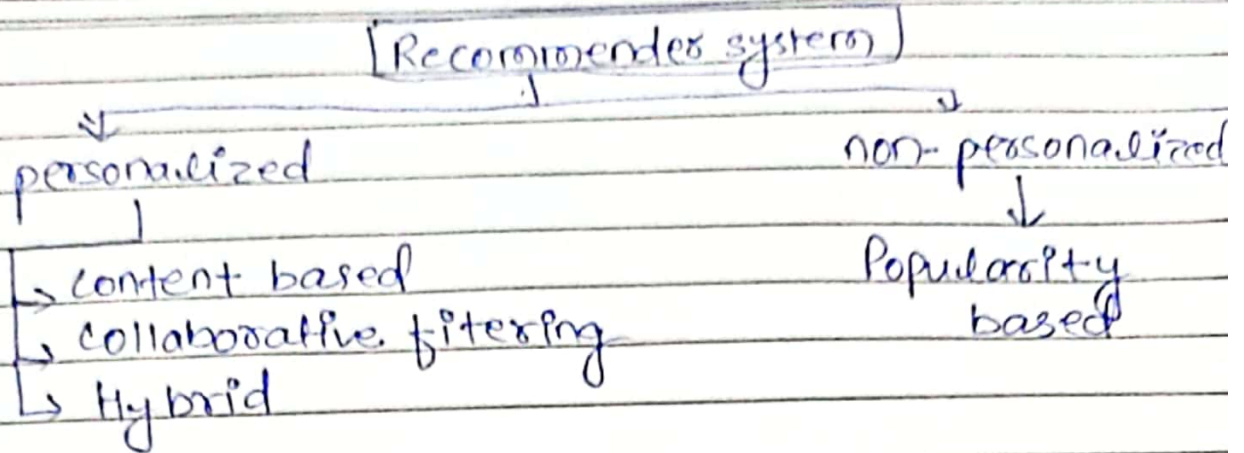a piece of text that factor into sentiment

analysis.

- Object :- The product, service, individual organization, event or topic being analyzed.

- Attributes:-
  The specific component and properties of the object.

- Opinion holder:-
  The person or organization who's expressing the sentiment.

- Opinion orientation:-
  The general position of the opinion.

- Opinion strength:-
  The level, scale or intensity of the opinion.

9. Write short notes on recommendation system and its types?

(i) Recommendation system & its types
Recomendation system or recommender system is a subclass of information filtering system that provides suggestion for items that are most pertinent to a particular user.
          There are two main types of recomm-ender systems - personalized and non-perso-nalized.

[Recommender system]

```
          personalized                          non-personalized
              |                                          |
              v                                          v
          ┌─ Content based                         Popularity
          ├─ collaborative filtering                  based
          └─ Hybrid
```

personalized based recommender system analyzes user data, their purchases, rating and their relationships with other user ind detail. In other words, we can say that every user will get cutomized recommendation.

Non personalized recommendation system like popularity based recommendation recommend the most popular item to the users, for instance top-10 movies, top selling book, most frequently purchased products.

(ii) Web IR performance metrics

Web IR can be defined as a software deals with the organization, storage, retrieval and evaluation of information from document repositories, particularly textual information.

Here performance metrices of web IR oftenly split into two types:
On line metrices which look at user's interactions with the search system and

of line metrices, which measures theoretical relevance.

In other word hous ulikely each result or search engine result page (SERP) page as a whole is to meet the information needs for the users.