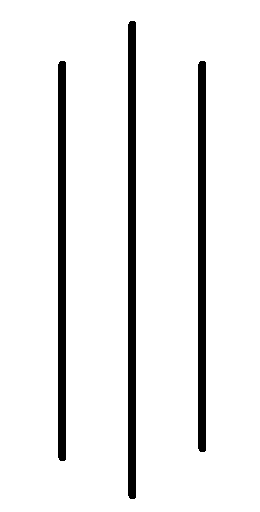
**Moti Secondary School**

**Airawati-2 Baraula Pyuthan**

**OJT lab report**

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# Chapter-1

# Database Management System (DBMS)

* A DBMS enables users to create and manage a database
* It also helps users create ,read ,update and delete data in a database and its assists with logging and auditing function
* The DBMS provides physical and logical independence from data.
* Users and application do not need to know either the physical or logical location of data.
* A DBMS can also limit and control access to the database and provide different views of the same database schema to multiple user.

**1.1 DATABSE**

* A database is an organized collection of structured information or data typically stored electronically in a computer
* Computer database typically store aggregations of data records or files that contains information , such a scales transitions customer data financial and product information
* Data base are used for starting maintaining and accessing any short of data
* They collect information on people places or things .
* That information is gathered in one place so that it can be observed and analyzed database can be thought of as an organized collection of information

**What are database used for ?**

Business use data stored in database to make informed business is decision same of in ways organization use database include the following

**Improve business process**

Companies collect data about business ,processes such sales order processing data and customer service they analyze that data to improve these processes expand there business and grow revenue.

**Keep track of customers**

Database often store information about people, such as customers or users for example , social media platforms use database to store user information , such as names, email , address and user behavior . the data is used to recommend content to user and improve the user experience.

**1.2 My SQL:**

* My SQL is a relational database management system (RDBMS) develop by oracle that is based on structured query language (SQL)
* A relation database is digital store collecting data and organizing it according to the relation model.
* In this model, tables consist of rows and column and relationship between data element all follow a strict logical structure
* An RDBMS is simply the set of software tools used to actually implement manage and query such as data base
* MySQL tutorial provides basic and advanced concepts of MySQL. Our MySQL tutorial is designed for beginners and professionals.
* MySQL is a relational database management system based on the Structured Query Language, which is the popular language for accessing and managing the records in the database. MySQL is open-source and free software under the GNU license. It is supported by  **Oracle Company**.
* Our MySQL tutorial includes all topics of MySQL database that provides for how to manage database and to manipulate data with the help of various SQL queries.

**1.3 Query to insert data in my SQL**

**Syntax:-**

INSERT INTO table\_name(‘column1’,’column2’…………’column\_n’)

Values(‘[value-1]’,’[value-2]’…………..’[value-n])

**Example:-**

INSERT INTO `teach

`er`(`s id`, `name`, `address`, `salary`, `date of birth`, `gender`, `contact no`, `subject`, `blood group`) VALUES ('[value-1]','[value-2]','[value-3]','[value-4]','[value-5]','[value-6]','[value-7]','[value-8]','[value-9]')

**1.4 Query to select data from table in MYSQL**

**Syntax :**

SELECT\* FROM ‘table \_name ‘WHERE column \_name=’value’

**Example :**

SQL Query to display all record of teacher table having address pyuthan

SELECT\* FROM ‘teacher’ WHERE Address= ‘pyuthan’

Database challenges

**1.4.1 Data security**

* It is required because data is valuable business asset .
* Protecting data stores required skilled cyber security staff which can be easily.

**1.4.2 Data integrity**

* Ensures data is trustworthy
* It is not always easy to achieve data integrity because it means restricting access to database to only those qualified to handle it.

**1.4.3 Database performance**

* Requires regular database updates and maintenance
* Without the proper support database functionality can decline as the technology supporting the database changes or the data its contains changes .

**1.4.4 Database integration**

* Can also be difficult
* It can involve integrating data sources from varying types of database and structure into a single database or into data takes and data ware houses

**1.4.6 Cloud database**

* These database are built in a public private or hybrid cloud for the virtualized environment.
* Users are changed based on how much storage and bandwidth they use.
* They also get salability on demand and high availability these database can work with application deployed as software as services .

**No SQL**

* No SQL databases are good when delving with large collections of distributed data.
* They can address big data performance issues better than relational databases
* They also do well analyzing large unstructured data sets and data on virtual servers in the cloud.
* These database can also be called non relational database

**Query to update data in MYSQL**

**Syntax:**

UPDATE Table \_name SET ‘column\_1 ‘=’ [value-1] ‘’ column\_2 ‘=’ [value-2] ‘,’ column-3 ‘,’[value-3] ‘……….’ Column\_n ‘=’[value-n]; WHERE Column \_name= ‘existing value ‘

**Example:**

UPDATE `teacher` SET `s id`='1',`name`='Asim khanal',`address`='Airawati-3 darimpata',`salary`='32000',`date of birth`='2033/4/5',`gender`='male',`contact no`='9847972488',`subject`='English',`blood group`='B+' WHERE 1

Secure personal health information

Health care providers use database to securely store personal health data to inform and improve patient core.

**Store personal data:**

Database can also be used to store personal information for example personal cloud storage is available for individual users to store media such as photos in a managed cloud .

**Types of database :**

**Rotational database :**

* Information in a relational database about a specific customer is organized into rows , columns and tables .
* Relational database users SQL in their users and application program interface .
* A new data category can easily be added to a relational data base without having to change the existing applications
* A rotational database management system (RDBMS) is used to store manage query and retrieve data in rotational database.

**SQL Query to display n highest value in table**

**Syntax :**

SELECT\* FROM table name ORDER by salary desc limit n-n,1

**Query to display 4th highest salary of employee**

SELECT \* FROM employee ORDER by salary desc limit 3,1

**Query to delete data in MYSQL**

**Syntax:**

DELETE FROM table name WHERE column name = ‘value’

**Example:**

DELETE FROM `teacher` WHERE 0

**Query to insert data in MYSQL database**

**Syntax:**

INSERT INTO TABLE\_NAME (

Column 1, column2, column3,………………column\_n

)

VALUE(

Value1, value2, value3,…………………..value N

);

**Components of Database**

**User:**

Users are the one who really uses the database. Users can be [administrators](https://www.tutorialcup.com/dbms/database-users-administrators.htm), developers, or end-users.

**Data or Database:**

 As we discussed already, data is one of the important factors of the database. A very huge amount of data will be stored in the database and it forms the main source for all other components to interact with each other.  There are two types of data. One is user data. It contains the data which is responsible for the database, i.e.; based on the requirement, the data will be stored in the various [tables](https://www.tutorialcup.com/dbms/tables.htm) of the database in the form of rows and columns. Another data is Metadata. It is known as ‘data about data’, i.e.; it stores the information like how many tables,  their names, how many columns and their names, primary keys, foreign keys, etc. basically these metadata will have information about each table and their constraints in the database.

**DBMS:**

This is the software that helps the user to interact with the database. It allows the users to [insert](https://www.tutorialcup.com/sql/insert-query.htm), [delete](https://www.tutorialcup.com/sql/delete-query.htm), [update](https://www.tutorialcup.com/sql/update-query.htm), or retrieve the data.  All these operations are handled by query languages like MySQL, Oracle, etc.

**Database Application:**

 It the application program which helps the users to interact with the database by means of query languages. The database application will not have any idea about the underlying DBMS.

# PHP INTRODUCTION

* PHP is an acronym for "PHP: Hypertext Preprocessor"
* PHP is a widely-used, open source scripting language
* PHP scripts are executed on the server
* PHP is free to download and use
* It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!  
  It is deep enough to run large social networks!  
  It is also easy enough to be a beginner's first server side language

## **Basic PHP Syntax**

A PHP script can be placed anywhere in the document.

A PHP script starts with <?php and ends with ?>:

<?php  
// PHP code goes here  
?>

The default file extension for PHP files is ".php".

A PHP file normally contains HTML tags, and some PHP scripting code.

Below, we have an example of a simple PHP file, with a PHP script that uses a built-in PHP function "echo" to output the text "Hello World!" on a web page:

**Example**

<!DOCTYPE html>  
<html>  
<body>  
  
<h1>My first PHP page</h1>  
  
<?php  
echo "Hello World!";  
?>  
  
</body>  
</html>

## **PHP Features**

**Performance:**

PHP script is executed much faster than those scripts which are written in other languages such as JSP and ASP. PHP uses its own memory, so the server workload and loading time is automatically reduced, which results in faster processing speed and better performance.

**Open Source:**

PHP source code and software are freely available on the web. You can develop all the versions of PHP according to your requirement without paying any cost. All its components are free to download and use.

**Familiarity with syntax:**

PHP has easily understandable syntax. Programmers are comfortable coding with it.

**Embedded:**

PHP code can be easily embedded within HTML tags and script.

**Platform Independent:**

PHP is available for WINDOWS, MAC, LINUX & UNIX operating system. A PHP application developed in one OS can be easily executed in other OS also.

**Database Support:**

PHP supports all the leading databases such as MySQL, SQLite, ODBC, etc.

**Error Reporting -**

PHP has predefined error reporting constants to generate an error notice or warning at runtime. E.g., E\_ERROR, E\_WARNING, E\_STRICT, E\_PARSE.

**Loosely Typed Language:**

PHP allows us to use a variable without declaring its datatype. It will be taken automatically at the time of execution based on the type of data it contains on its value.

**Web servers Support:**

PHP is compatible with almost all local servers used today like Apache, Netscape, Microsoft IIS, etc.

**Security:**

PHP is a secure language to develop the website. It consists of multiple layers of security to prevent threads and malicious attacks.

**Control:**

Different programming languages require long script or code, whereas PHP can do the same work in a few lines of code. It has maximum control over the websites like you can make changes easily whenever you want.