1. Introduction

What Is Database Management system?

Database management system is software that is used to manage the database. A DBMS serves as an interface between an end-user and a database, allowing users to create, read, update, and delete data in the database. Database Management System allows for the creation, management, and manipulation of database. A DBMS helps manage large amounts of data by keeping it organized and accessible.

Meaning of database management system:

1. **What is data?**

   Data is collection of information.

2. **What is database?**

   -Basic collection of information is called as database.

3. **What is database management?**

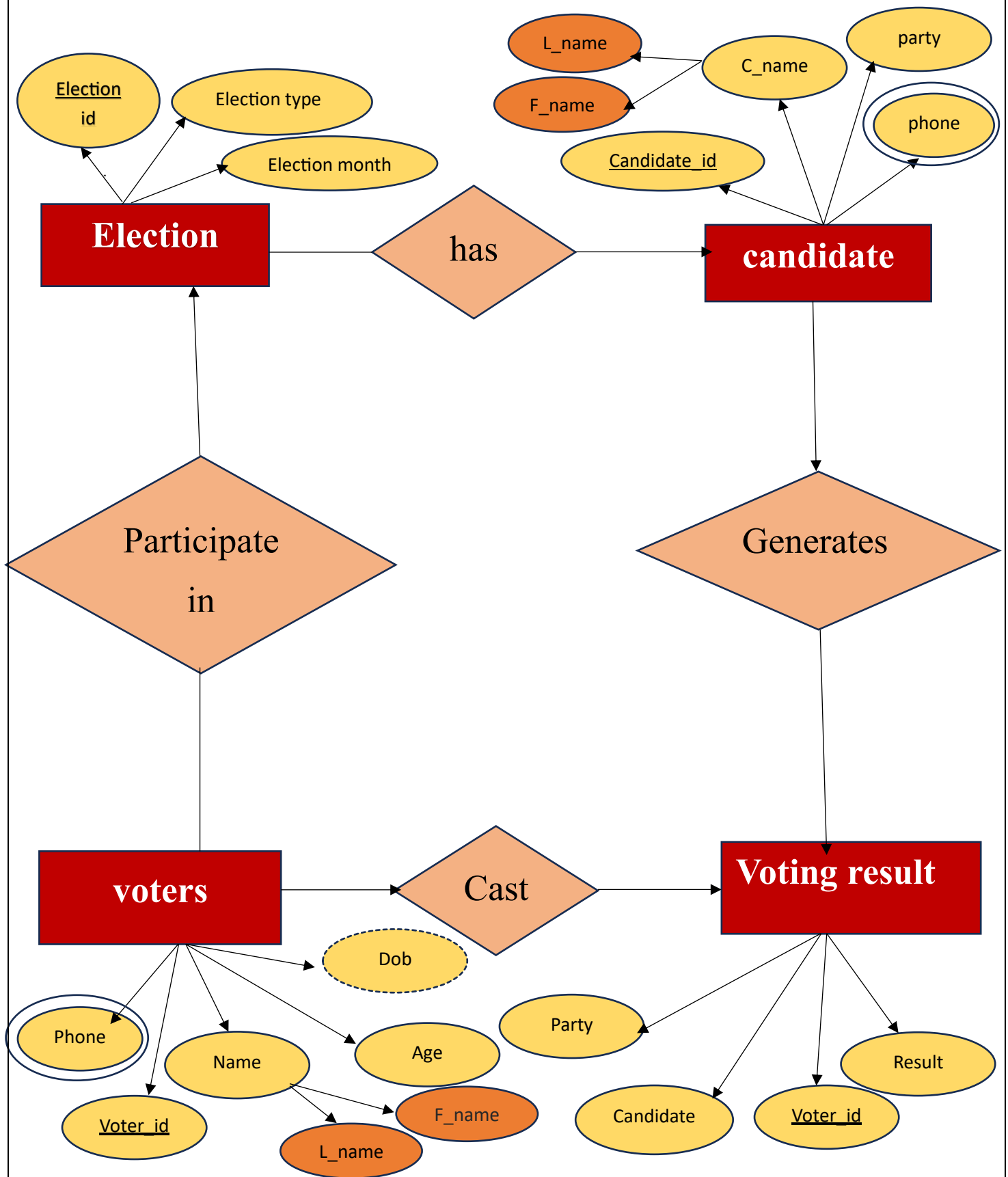   -Manages all type data is called as database management.

4. **What is database management system?**

   -System management manages all type of data is called as database management system.

2. Topic related information

1. An Election Management System (EMS) helps manage the various components of an election, including candidate details, voter registration, voing date and time , types of elections and results tallying. In the context of an Election Management System (EMS), a Database Management System (DBMS) plays a crucial role in organizing and managing various aspects of the election process.

2. **Voter Registration:** The DBMS stores detailed records of registered voters, including their names, addresses, and eligibility status. This centralized database enables easy verification of voter identities and helps prevent duplicate registrations, ensuring that only eligible individuals can vote.

3. **Candidate Management:** The system keeps track of all candidates running for different positions. It stores information about each candidate, such as their name, party affiliation, and the positions they are contesting for. This helps in managing the electoral candidates and provides a clear record of their participation.

4. **Election Scheduling and Details:** The DBMS manages information related to different elections, including dates, types, and the positions available. This allows for efficient planning and organization of election events, ensuring that all necessary details are recorded and easily accessible.

5. **Voting Process:** Coordinates the setup and management of polling stations. Manages the process of collecting votes, either electronically or manually. Ensures the security of voting data and protects against tampering.

6. **Reporting Result:** Releases election results to the public through official channels, such as websites, media, or press releases.

3. ER Diagram:

4. Advantages

1. **Efficient Data Management:** A DBMS organizes data in a structured way, making it easy to store, retrieve, and manage large volumes of information.

2. **Data Security:** As the number of users increases, the data transferring or data sharing rate also increases thus increasing the risk of data security. A Database Management System (DBMS) provides a better platform for data privacy and security.

3. **Data Integrity:** Due to the Database Management System we have access to well-managed data thus it makes data handling very easy.

4. **Reduction in data Redundancy:** When working with a structured database, DBMS provides the feature to prevent the input of duplicate items in the database. for e.g. – If there are two same students in different rows, then one of the duplicate data will be deleted.

5. **Data organization:** A DBMS provides a systematic approach to organizing data in a structured way, which makes it easier to manage data efficiently.

5. Disadvantages

1. **Cost:** DBMS software can be expensive to purchase and maintain.

2. **Complexity:** Setting up and managing a DBMS can be complex and may require specialized knowledge.

3. **Performance:** DBMS systems can be slower than simpler file systems, especially with large amounts of data or complex queries.

4. **Resource Usage:** DBMSs often require more hardware resources (like memory and storage) compared to simpler systems.

5. **Maintenance:** Regular maintenance and updates are needed to keep a DBMS running smoothly and securely.

6. Applications

1. Banking Systems
2. Healthcare
3. Retail and E-Commerce
4. School management system
5. Hospital management system
6. Social media
7. Real Estate
8. Library management system
9. Event management system
10. Agriculture
11. Contact management system
12. Travel and booking system

7. Outputs

```
mysql> create table voters(Voter_id int(10)not null,Name varchar(40),Age int(10),Address varchar(40),Email varchar(40),phone int(10),primary key(Voter_id));
Query OK, 0 rows affected (0.01 sec)

mysql> insert into voters(voter_id,name,dob,address,email,phone) values(0121456,"Vaishnavi Basavraj Gote",21,"Raviwar peth shelgi,solapur","vaishnavig@gmail
.com",942365342);
ERROR 1054 (42S22): Unknown column 'dob' in 'field list'
mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121456,"Vaishnavi Basavraj Gote",21,"Raviwar peth shelgi,solapur","vaishnavig@gmail
.com",942365342);
Query OK, 1 row affected (0.01 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121571,"Aarya Prasad Gupta",25,"Ashok chowk,solapur","aarya.p.a@gmail.com",93245467
8);
Query OK, 1 row affected (0.00 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121678,"Suraj Kailash Mali",29,"Pani taki,solapur","surajmali90@gmail.com",93433225
1);
Query OK, 1 row affected (0.02 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121854,"Chitra Kiran More",20,"Kumbhar ves,solapur","chitra987@gmail.com",930012348
);
Query OK, 1 row affected (0.01 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121752,"Siddhi Ramesh Gokhale",31,"Sakhar peth,solapur","siddhi12@gmail.com",983321
211);
Query OK, 1 row affected (0.01 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121123,"Ram Vijay Birajdar",35,"Sakhar peth,solapur","ramvb@gmail.com",987665342);
Query OK, 1 row affected (0.02 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121223,"Sakshi Anil Jadhav",19,"Bavani peth shelgi,solapur","sakshi10@gmail.com",93
2356342);
Query OK, 1 row affected (0.00 sec)

mysql> insert into voters(voter_id,name,age,address,email,phone) values(0121554,"Rohit Rajkumar Malage",40,"Tuljapur Road,solapur","rohit1234@gmail.com",935
432517);
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select * from voters;
+----------+-----------------------+------+----------------------------+----------------------+-----------+
| Voter_id | Name                  | Age  | Address                    | Email                | phone     |
+----------+-----------------------+------+----------------------------+----------------------+-----------+
|   121123 | Ram Vijay Birajdar    |   35 | Sakhar peth,solapur        | ramvb@gmail.com      | 987665342 |
|   121223 | Sakshi Anil Jadhav    |   19 | Bavani peth shelgi,solapur | sakshi10@gmail.com   | 932356342 |
|   121456 | Vaishnavi Basavraj Gote |  21 | Raviwar peth shelgi,solapur | vaishnavig@gmail.com | 942365342 |
|   121554 | Rohit Rajkumar Malage |   40 | Tuljapur Road,solapur      | rohit1234@gmail.com  | 935432517 |
|   121571 | Aarya Prasad Gupta    |   25 | Ashok chowk,solapur        | aarya.p.a@gmail.com  | 932454678 |
|   121678 | Suraj Kailash Mali    |   29 | Pani taki,solapur          | surajmali90@gmail.com | 934332251 |
|   121752 | Siddhi Ramesh Gokhale |   31 | Sakhar peth,solapur        | siddhi12@gmail.com   | 983321211 |
|   121854 | Chitra Kiran More     |   20 | Kumbhar ves,solapur        | chitra987@gmail.com  | 930012348 |
+----------+-----------------------+------+----------------------------+----------------------+-----------+
```

```
mysql> insert into candidate(candidate_id,name,party,election_id,phone_no) values(1,"Vijaya Deshmukh","BJP",01233,983425251);
Query OK, 1 row affected (0.01 sec)

mysql> insert into candidate(candidate_id,name,party,election_id,phone_no) values(2,"Rajaram More","Congress",012
43,986527891);
Query OK, 1 row affected (0.02 sec)

mysql> insert into candidate(candidate_id,name,party,election_id,phone_no) values(3,"Nandini Nadda","Bahujan sama
j ",01223,942354342);
Query OK, 1 row affected (0.02 sec)

mysql> insert into candidate(candidate_id,name,party,election_id,phone_no) values(4,"Akash Jadhav","Communist par
ty",01298,947543242);
Query OK, 1 row affected (0.01 sec)

mysql> insert into candidate(candidate_id,name,party,election_id,phone_no) values(5,"Amit Shinde","Shiv Sena",012
56,944323451);
Query OK, 1 row affected (0.01 sec)

mysql> select * from candidate;
+--------------+---------------+-----------------+-------------+-----------+
| candidate_id | name          | party           | election_id | phone_no  |
+--------------+---------------+-----------------+-------------+-----------+
|            1 | Vijaya Deshmukh | BJP           |        1233 | 983425251 |
|            2 | Rajaram More  | Congress        |        1243 | 986527891 |
|            3 | Nandini Nadda | Bahujan samaj   |        1223 | 942354342 |
|            4 | Akash Jadhav  | Communist party |        1298 | 947543242 |
|            5 | Amit Shinde   | Shiv Sena       |        1256 | 944323451 |
+--------------+---------------+-----------------+-------------+-----------+
```

```
mysql> create table election(election_id int(10), Election_name varchar(30),election_Month varchar(20));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into election(election_id,election_name,election_date) values(1,"Local Election","April");
ERROR 1054 (42S22): Unknown column 'election_date' in 'field list'
mysql> insert into election(election_id,election_name,election_month) values(1,"Local Election","April");
Query OK, 1 row affected (0.02 sec)

mysql> insert into election(election_id,election_name,election_Month) values(2,"General Election","May");
Query OK, 1 row affected (0.02 sec)

mysql> insert into election(election_id,election_name,election_month) values(3,"Special Election","September");
Query OK, 1 row affected (0.01 sec)

mysql> insert into election(election_id,election_name,election_Month) values(4,"primary Election","November");
Query OK, 1 row affected (0.01 sec)

mysql> select * from election;
+-------------+------------------+----------------+
| election_id | Election_name    | election_Month |
+-------------+------------------+----------------+
|           1 | Local Election   | April          |
|           2 | General Election | May            |
|           3 | Special Election | September      |
|           4 | primary Election | November       |
+-------------+------------------+----------------+
```

```
mysql> create table voteing_result(voterId int(10)not null,voter_name varchar(40)UNIQUE,party varchar(20),Election_id int(10),Election_name varc
har(40),foreign key(voterId) references voters(voter_id));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121123,"Ram Birajdar","BJP",1,"Local election");
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121554,"Rohit Malage","Bahujan Samaj",1,"Local elec
tion");
Query OK, 1 row affected (0.02 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121854,"Chitra More","BJP",1,"Local election");
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121456,"Vaishnavi Gote","Shiv Sena",1,"Local electi
on");
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121571,"Aarya Gupta","Congress",1,"Local election")
;
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121678,"Suraj Mali","Communist Party",1,"Local elec
tion");
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121752,"Siddhi Gokhale","Shiv Sena",1,"Local electi
on");
Query OK, 1 row affected (0.01 sec)

mysql> insert into voteing_result(voterId,voter_name,party,Election_id,election_name) values(121223,"Sakshi Jadhav","Congress",1,"Local election
");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from voteing_result;
+----------+----------------+-----------------+-------------+----------------+
| voterId  | voter_name     | party           | Election_id | Election_name  |
+----------+----------------+-----------------+-------------+----------------+
|   121123 | Ram Birajdar   | BJP             |           1 | Local election |
|   121554 | Rohit Malage   | Bahujan Samaj   |           1 | Local election |
|   121854 | Chitra More    | BJP             |           1 | Local election |
|   121456 | Vaishnavi Gote | Shiv Sena       |           1 | Local election |
|   121571 | Aarya Gupta    | Congress        |           1 | Local election |
|   121678 | Suraj Mali     | Communist Party |           1 | Local election |
|   121752 | Siddhi Gokhale | Shiv Sena       |           1 | Local election |
|   121223 | Sakshi Jadhav  | Congress        |           1 | Local election |
+----------+----------------+-----------------+-------------+----------------+
```

```
mysql> select upper(name) from voters;
+-----------------------------+
| upper(name)                 |
+-----------------------------+
| RAM VIJAY BIRAJDAR          |
| SAKSHI ANIL JADHAV          |
| VAISHNAVI BASAVRAJ GOTE     |
| ROHIT RAJKUMAR MALAGE       |
| AARYA PRASAD GUPTA          |
| SURAJ KAILASH MALI          |
| SIDDHI RAMESH GOKHALE       |
| CHITRA KIRAN MORE           |
+-----------------------------+
8 rows in set (0.00 sec)

mysql> select lower(name) from voters;
+-----------------------------+
| lower(name)                 |
+-----------------------------+
| ram vijay birajdar          |
| sakshi anil jadhav          |
| vaishnavi basavraj gote     |
| rohit rajkumar malage       |
| aarya prasad gupta          |
| suraj kailash mali          |
| siddhi ramesh gokhale       |
| chitra kiran more           |
+-----------------------------+
8 rows in set (0.00 sec)
```

```
mysql> select concat(voter_id  ,name) from voters;
+-----------------------------+
| concat(voter_id  ,name)     |
+-----------------------------+
| 121123Ram Vijay Birajdar    |
| 121223Sakshi Anil Jadhav    |
| 121456Vaishnavi Basavraj Gote |
| 121554Rohit Rajkumar Malage |
| 121571Aarya Prasad Gupta    |
| 121678Suraj Kailash Mali    |
| 121752Siddhi Ramesh Gokhale |
| 121854Chitra Kiran More     |
+-----------------------------+
8 rows in set (0.00 sec)
```

```
mysql> select reverse(name) from voters;
+--------------------------+
| reverse(name)            |
+--------------------------+
| radjariB yajiV maR       |
| vahdaJ linA ihskaS       |
| etoG jarvasaB ivanhsiaV  |
| egalaM ramukjaR tihoR    |
| atpuG dasarP ayraA       |
| ilaM hsaliaK jaruS       |
| elahkoG hsemaR ihddiS    |
| eroM nariK artihC        |
+--------------------------+
8 rows in set (0.00 sec)

mysql> select length(name) from voters;
+--------------+
| length(name) |
+--------------+
|           18 |
|           18 |
|           23 |
|           21 |
|           18 |
|           18 |
|           21 |
|           17 |
+--------------+
8 rows in set (0.00 sec)
```

```
mysql> create view v1 as select * from election;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from v1;
+-------------+------------------+----------------+
| election_id | Election_name    | election_Month |
+-------------+------------------+----------------+
|           1 | Local Election   | April          |
|           2 | General Election | May            |
|           3 | Special Election | September       |
|           4 | primary Election | November       |
+-------------+------------------+----------------+
4 rows in set (0.00 sec)

mysql> drop view v1;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> select min(voterid) from voteing_result;
+--------------+
| min(voterid) |
+--------------+
|       121123 |
+--------------+
1 row in set (0.00 sec)

mysql> select max(voterid) from voteing_result;
+--------------+
| max(voterid) |
+--------------+
|       121854 |
+--------------+
1 row in set (0.00 sec)

mysql> select round(voterid) from voteing_result;
+----------------+
| round(voterid) |
+----------------+
|         121123 |
|         121223 |
|         121456 |
|         121554 |
|         121571 |
|         121678 |
|         121752 |
|         121854 |
+----------------+
8 rows in set (0.00 sec)

mysql> select sum(voterid) from voteing_result;
+--------------+
| sum(voterid) |
+--------------+
|       972211 |
+--------------+
```

```
mysql> select sum(voterid) from voteing_result;
+--------------+
| sum(voterid) |
+--------------+
|       972211 |
+--------------+
1 row in set (0.00 sec)

mysql> select avg(voterid) from voteing_result;
+--------------+
| avg(voterid) |
+--------------+
|   121526.3750 |
+--------------+
1 row in set (0.00 sec)

mysql> select count(voterid) from voteing_result;
+----------------+
| count(voterid) |
+----------------+
|              8 |
+----------------+
1 row in set (0.00 sec)
```

```
mysql> select curdate();
+------------+
| curdate()  |
+------------+
| 2024-07-28 |
+------------+
1 row in set (0.00 sec)

mysql> select curtime();
+------------+
| curtime()  |
+------------+
| 14:20:05   |
+------------+
1 row in set (0.00 sec)

mysql> select now();
+---------------------+
| now()               |
+---------------------+
| 2024-07-28 14:20:18 |
+---------------------+
1 row in set (0.00 sec)
```

```
mysql> create index ind on candidate(election_id);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show index from candidate;
+-----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table     | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| candidate |          0 | PRIMARY  |            1 | candidate_id | A        |           5 |     NULL | NULL   |      | BTREE      |         |               |
| candidate |          1 | ind      |            1 | election_id  | A        |           5 |     NULL | NULL   | YES  | BTREE      |         |               |
+-----------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.01 sec)

mysql> drop index ind on candidate;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> select * from candidate where NOT election_id=1233 ;
+--------------+---------------+-----------------+-------------+-----------+
| candidate_id | name          | party           | election_id | phone_no  |
+--------------+---------------+-----------------+-------------+-----------+
|            2 | Rajaram More  | Congress        |        1243 | 986527891 |
|            3 | Nandini Nadda | Bahujan samaj   |        1223 | 942354342 |
|            4 | Akash Jadhav  | Communist party |        1298 | 947543242 |
|            5 | Amit Shinde   | Shiv Sena       |        1256 | 944323451 |
+--------------+---------------+-----------------+-------------+-----------+
4 rows in set (0.00 sec)

mysql> select * from candidate where party="shiv sena" OR election_id=1233 ;
+--------------+-----------------+-----------+-------------+-----------+
| candidate_id | name            | party     | election_id | phone_no  |
+--------------+-----------------+-----------+-------------+-----------+
|            1 | Vijaya Deshmukh | BJP       |        1233 | 983425251 |
|            5 | Amit Shinde     | Shiv Sena |        1256 | 944323451 |
+--------------+-----------------+-----------+-------------+-----------+
2 rows in set (0.02 sec)

mysql> select * from candidate where party="BJP" AND election_id=1233 ;
+--------------+-----------------+-------+-------------+-----------+
| candidate_id | name            | party | election_id | phone_no  |
+--------------+-----------------+-------+-------------+-----------+
|            1 | Vijaya Deshmukh | BJP   |        1233 | 983425251 |
+--------------+-----------------+-------+-------------+-----------+
1 row in set (0.00 sec)
```

```
mysql> select voter_name from voteing_result where voter_name like "%h%";
+----------------+
| voter_name     |
+----------------+
| Chitra More    |
| Rohit Malage   |
| Sakshi Jadhav  |
| Siddhi Gokhale |
| Vaishnavi Gote |
+----------------+
5 rows in set (0.00 sec)

mysql> select voter_name from voteing_result where voter_name like "h%";
Empty set (0.00 sec)

mysql> select voter_name from voteing_result where voter_name like "s%";
+----------------+
| voter_name     |
+----------------+
| Sakshi Jadhav  |
| Siddhi Gokhale |
| Suraj Mali     |
+----------------+
3 rows in set (0.01 sec)

mysql> select voter_name from voteing_result where voter_name like "%c%";
+-------------+
| voter_name  |
+-------------+
| Chitra More |
+-------------+
1 row in set (0.00 sec)
```

```
mysql> select name from voters order by name asc;
+------------------------+
| name                   |
+------------------------+
| Aarya Prasad Gupta     |
| Chitra Kiran More      |
| Ram Vijay Birajdar     |
| Rohit Rajkumar Malage  |
| Sakshi Anil Jadhav     |
| Siddhi Ramesh Gokhale  |
| Suraj Kailash Mali     |
| Vaishnavi Basavraj Gote|
+------------------------+
8 rows in set (0.00 sec)

mysql> select name from voters order by name desc;
+------------------------+
| name                   |
+------------------------+
| Vaishnavi Basavraj Gote|
| Suraj Kailash Mali     |
| Siddhi Ramesh Gokhale  |
| Sakshi Anil Jadhav     |
| Rohit Rajkumar Malage  |
| Ram Vijay Birajdar     |
| Chitra Kiran More      |
| Aarya Prasad Gupta     |
+------------------------+
8 rows in set (0.00 sec)

mysql> select * from voters where age=35;
+----------+--------------------+------+----------------------+-----------------+-----------+
| Voter_id | Name               | Age  | Address              | Email           | phone     |
+----------+--------------------+------+----------------------+-----------------+-----------+
|   121123 | Ram Vijay Birajdar |   35 | Sakhar peth,solapur  | ramvb@gmail.com | 987665342 |
+----------+--------------------+------+----------------------+-----------------+-----------+
1 row in set (0.00 sec)
```

```
mysql> select age from voters where voter_id=121571 group by age having age;
+------+
| age  |
+------+
|   25 |
+------+
1 row in set (0.00 sec)

mysql> select name from voters where age=25 group by name;
+--------------------+
| name               |
+--------------------+
| Aarya Prasad Gupta |
+--------------------+
1 row in set (0.00 sec)
```

```
mysql> select voter_id,age,voterID,voter_name from voters INNER JOIN voteing_result;
+----------+------+---------+----------------+
| voter_id | age  | voterID | voter_name     |
+----------+------+---------+----------------+
|   121123 |   35 |  121123 | Ram Birajdar   |
|   121223 |   19 |  121123 | Ram Birajdar   |
|   121456 |   21 |  121123 | Ram Birajdar   |
|   121554 |   40 |  121123 | Ram Birajdar   |
|   121571 |   25 |  121123 | Ram Birajdar   |
|   121678 |   29 |  121123 | Ram Birajdar   |
|   121752 |   31 |  121123 | Ram Birajdar   |
|   121854 |   20 |  121123 | Ram Birajdar   |
|   121123 |   35 |  121554 | Rohit Malage   |
|   121223 |   19 |  121554 | Rohit Malage   |
|   121456 |   21 |  121554 | Rohit Malage   |
|   121554 |   40 |  121554 | Rohit Malage   |
|   121571 |   25 |  121554 | Rohit Malage   |
|   121678 |   29 |  121554 | Rohit Malage   |
|   121752 |   31 |  121554 | Rohit Malage   |
|   121854 |   20 |  121554 | Rohit Malage   |
|   121123 |   35 |  121854 | Chitra More    |
|   121223 |   19 |  121854 | Chitra More    |
|   121456 |   21 |  121854 | Chitra More    |
|   121554 |   40 |  121854 | Chitra More    |
|   121571 |   25 |  121854 | Chitra More    |
|   121678 |   29 |  121854 | Chitra More    |
|   121752 |   31 |  121854 | Chitra More    |
|   121854 |   20 |  121854 | Chitra More    |
|   121123 |   35 |  121456 | Vaishnavi Gote |
|   121223 |   19 |  121456 | Vaishnavi Gote |
|   121456 |   21 |  121456 | Vaishnavi Gote |
|   121554 |   40 |  121456 | Vaishnavi Gote |
|   121571 |   25 |  121456 | Vaishnavi Gote |
|   121678 |   29 |  121456 | Vaishnavi Gote |
|   121752 |   31 |  121456 | Vaishnavi Gote |
|   121854 |   20 |  121456 | Vaishnavi Gote |
|   121123 |   35 |  121571 | Aarya Gupta    |
|   121223 |   19 |  121571 | Aarya Gupta    |
|   121456 |   21 |  121571 | Aarya Gupta    |
|   121554 |   40 |  121571 | Aarya Gupta    |
|   121571 |   25 |  121571 | Aarya Gupta    |
```

```
mysql> select voterID,voter_name,voter_id,name from voteing_result Right Outer Join voters on(voters.voter_id=voteing_result.voterId);
+---------+----------------+----------+------------------------+
| voterID | voter_name     | voter_id | name                   |
+---------+----------------+----------+------------------------+
|  121123 | Ram Birajdar   |   121123 | Ram Vijay Birajdar     |
|  121223 | Sakshi Jadhav  |   121223 | Sakshi Anil Jadhav     |
|  121456 | Vaishnavi Gote |   121456 | Vaishnavi Basavraj Gote|
|  121554 | Rohit Malage   |   121554 | Rohit Rajkumar Malage  |
|  121571 | Aarya Gupta    |   121571 | Aarya Prasad Gupta     |
|  121678 | Suraj Mali     |   121678 | Suraj Kailash Mali     |
|  121752 | Siddhi Gokhale |   121752 | Siddhi Ramesh Gokhale  |
|  121854 | Chitra More    |   121854 | Chitra Kiran More      |
+---------+----------------+----------+------------------------+
8 rows in set (0.00 sec)

mysql> select voter_id,name,voterID,voter_name from voters Left Outer Join voteing_result on(voters.voter_id=voteing_result.voterId);
+----------+------------------------+---------+----------------+
| voter_id | name                   | voterID | voter_name     |
+----------+------------------------+---------+----------------+
|   121123 | Ram Vijay Birajdar     |  121123 | Ram Birajdar   |
|   121223 | Sakshi Anil Jadhav     |  121223 | Sakshi Jadhav  |
|   121456 | Vaishnavi Basavraj Gote|  121456 | Vaishnavi Gote |
|   121554 | Rohit Rajkumar Malage  |  121554 | Rohit Malage   |
|   121571 | Aarya Prasad Gupta     |  121571 | Aarya Gupta    |
|   121678 | Suraj Kailash Mali     |  121678 | Suraj Mali     |
|   121752 | Siddhi Ramesh Gokhale  |  121752 | Siddhi Gokhale |
|   121854 | Chitra Kiran More      |  121854 | Chitra More    |
+----------+------------------------+---------+----------------+
8 rows in set (0.01 sec)
```

```
mysql> select voter_id,age,voterID,voter_name from voters NATURAL JOIN voteing_result;
+----------+------+----------+----------------+
| voter_id | age  | voterID  | voter_name     |
+----------+------+----------+----------------+
|   121123 |   35 |   121123 | Ram Birajdar   |
|   121223 |   19 |   121123 | Ram Birajdar   |
|   121456 |   21 |   121123 | Ram Birajdar   |
|   121554 |   40 |   121123 | Ram Birajdar   |
|   121571 |   25 |   121123 | Ram Birajdar   |
|   121678 |   29 |   121123 | Ram Birajdar   |
|   121752 |   31 |   121123 | Ram Birajdar   |
|   121854 |   20 |   121123 | Ram Birajdar   |
|   121123 |   35 |   121554 | Rohit Malage   |
|   121223 |   19 |   121554 | Rohit Malage   |
|   121456 |   21 |   121554 | Rohit Malage   |
|   121554 |   40 |   121554 | Rohit Malage   |
|   121571 |   25 |   121554 | Rohit Malage   |
|   121678 |   29 |   121554 | Rohit Malage   |
|   121752 |   31 |   121554 | Rohit Malage   |
|   121854 |   20 |   121554 | Rohit Malage   |
|   121123 |   35 |   121854 | Chitra More    |
|   121223 |   19 |   121854 | Chitra More    |
|   121456 |   21 |   121854 | Chitra More    |
|   121554 |   40 |   121854 | Chitra More    |
|   121571 |   25 |   121854 | Chitra More    |
|   121678 |   29 |   121854 | Chitra More    |
|   121752 |   31 |   121854 | Chitra More    |
|   121854 |   20 |   121854 | Chitra More    |
|   121123 |   35 |   121456 | Vaishnavi Gote |
|   121223 |   19 |   121456 | Vaishnavi Gote |
|   121456 |   21 |   121456 | Vaishnavi Gote |
|   121554 |   40 |   121456 | Vaishnavi Gote |
|   121571 |   25 |   121456 | Vaishnavi Gote |
|   121678 |   29 |   121456 | Vaishnavi Gote |
|   121752 |   31 |   121456 | Vaishnavi Gote |
|   121854 |   20 |   121456 | Vaishnavi Gote |
|   121123 |   35 |   121571 | Aarya Gupta    |
|   121223 |   19 |   121571 | Aarya Gupta    |
|   121456 |   21 |   121571 | Aarya Gupta    |
|   121554 |   40 |   121571 | Aarya Gupta    |
```

```
mysql> select * from voteing_result;
+----------+----------------+----------------+-------------+----------------+
| voterId  | voter_name     | party          | Election_id | Election_name  |
+----------+----------------+----------------+-------------+----------------+
|   121123 | Ram Birajdar   | BJP            |           1 | Local election |
|   121554 | Rohit Malage   | Bahujan Samaj  |           1 | Local election |
|   121854 | Chitra More    | BJP            |           1 | Local election |
|   121456 | Vaishnavi Gote | Shiv Sena      |           1 | Local election |
|   121571 | Aarya Gupta    | Congress       |           1 | Local election |
|   121678 | Suraj Mali     | Communist Party|           1 | Local election |
|   121752 | Siddhi Gokhale | Shiv Sena      |           1 | Local election |
|   121223 | Sakshi Jadhav  | Congress       |           1 | Local election |
+----------+----------------+----------------+-------------+----------------+
```

```
mysql> select name from voters where age IN (20,35);
+-------------------+
| name              |
+-------------------+
| Ram Vijay Birajdar |
| Chitra Kiran More  |
+-------------------+
2 rows in set (0.00 sec)

mysql> select age from voters where age between 20 AND 40;
+------+
| age  |
+------+
|   35 |
|   21 |
|   40 |
|   25 |
|   29 |
|   31 |
|   20 |
+------+
7 rows in set (0.00 sec)
```

```
mysql> show tables;
+--------------------+
| Tables_in_election |
+--------------------+
| candidate          |
| election           |
| voteing_result     |
| voters             |
+--------------------+
```

8. Conclusion

We learned that DBMS are essential for organizing and managing data efficiently, making sure that information is accurate and secure. Database Management Systems (DBMS) are pivotal to modern information management across a wide range of industries and applications. Their ability to efficiently store, retrieve, and manage data underpins the operation of many critical systems, enhancing organizational efficiency, data integrity, and decision-making. From banking systems and healthcare to retail, education, and beyond, DBMS technology supports various functionalities, including transaction processing, data analysis, and record management.

9. References

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