1.

```
mysql> create database indianpolitics
    -> ;
Query OK, 1 row affected (0.01 sec)

mysql> use indianpolitics;
Database changed
mysql> S
```

2.

```
mysql> create table partyinfo(
    -> partyid int primary key,
    -> party_name varchar(30),
    -> president varchar(30),
    -> estabilishedyear year);
Query OK, 0 rows affected (0.04 sec)

mysql>
```

```
mysql> create table politicians(
    -> politicianID int primary key,
    -> name varchar(30),
    -> termsserved int,
    -> age real,
    -> p_id int not null,
    -> foreign key (p_id) references partyinfo(partyid)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
```

```
mysql> CREATE TABLE Constituencies (
    ->      Pol_ID INT NOT NULL,
    ->      ConstituencyWon VARCHAR(30),
    ->      FOREIGN KEY (Pol_ID) REFERENCES Politicians(PoliticianID)
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql>
```

3.

```
mysql> INSERT INTO PartyInfo VALUES
    -> (1, 'Aam Aadmi Party', 'Arwind Kejriwal', 2012),
    -> (2, 'Bharatiya Janata Party', 'JP Nadda', 1980),
    -> (3, 'Indian National Congress', 'Mallikarjun Kharge', 1885),
    -> (4, 'Bahujan Samaj Party', 'Mayawati', 1984),
    -> (5, 'Samajwadi Party', 'Mulayam Singh Yadav', 1992);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> INSERT INTO Politicians VALUES
    -> (101, 'Manish Sisodia', 2, 53, 1),
    -> (102, 'Harsh Vardhan', 3, 70, 2),
    -> (103, 'Ajay Makan', 2, 61, 3),
    -> (104, 'Laal Singh Arya', 3, 61, 4),
    -> (105, 'Gautam Gambhir', 1, 43, 2);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO Constituencies VALUES
    -> (101, 'Patparganj'),
    -> (102, 'Krishna Nagar'),
    -> (103, 'Sadar Bazar'),
    -> (105, 'East Delhi');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql>
```

4.

```
mysql> SELECT p.PoliticianID, p.Name, p.Age, p.termsServed
    -> FROM Politicians p
    -> JOIN Constituencies c ON p.PoliticianID = c.Pol_ID;
+--------------+----------------+------+-------------+
| PoliticianID | Name           | Age  | termsServed |
+--------------+----------------+------+-------------+
|          101 | Manish Sisodia |   53 |           2 |
|          102 | Harsh Vardhan  |   70 |           3 |
|          103 | Ajay Makan     |   61 |           2 |
|          105 | Gautam Gambhir |   43 |           1 |
+--------------+----------------+------+-------------+
4 rows in set (0.01 sec)

mysql>
```

5.

```
mysql> SELECT p.Name, pi.Party_name
    -> FROM Politicians p
    -> JOIN PartyInfo pi ON p.P_ID = pi.PartyID;
+----------------+-------------------------+
| Name           | Party_name              |
+----------------+-------------------------+
| Manish Sisodia | Aam Aadmi Party         |
| Harsh Vardhan  | Bharatiya Janata Party  |
| Ajay Makan     | Indian National Congress |
| Laal Singh Arya | Bahujan Samaj Party    |
| Gautam Gambhir | Bharatiya Janata Party  |
+----------------+-------------------------+
5 rows in set (0.00 sec)

mysql>
```

6.

```
mysql> SELECT p.Name, pi.Party_name, c.ConstituencyWon
    -> FROM Politicians p
    -> JOIN PartyInfo pi ON p.P_ID = pi.PartyID
    -> LEFT JOIN Constituencies c ON p.PoliticianID = c.Pol_ID;
+-----------------+--------------------------+-----------------+
| Name            | Party_name               | ConstituencyWon |
+-----------------+--------------------------+-----------------+
| Manish Sisodia  | Aam Aadmi Party          | Patparganj      |
| Harsh Vardhan   | Bharatiya Janata Party   | Krishna Nagar   |
| Ajay Makan      | Indian National Congress | Sadar Bazar     |
| Gautam Gambhir  | Bharatiya Janata Party   | East Delhi      |
| Laal Singh Arya | Bahujan Samaj Party      | NULL            |
+-----------------+--------------------------+-----------------+
5 rows in set (0.01 sec)

mysql>
```

7.

```
mysql> SELECT p.Name, IFNULL(c.ConstituencyWon, 'Did not contest') AS Co
nstituency
    -> FROM Politicians p
    -> LEFT JOIN Constituencies c ON p.PoliticianID = c.Pol_ID;
+-----------------+-----------------+
| Name            | Constituency    |
+-----------------+-----------------+
| Manish Sisodia  | Patparganj      |
| Harsh Vardhan   | Krishna Nagar   |
| Ajay Makan      | Sadar Bazar     |
| Gautam Gambhir  | East Delhi      |
| Laal Singh Arya | Did not contest |
+-----------------+-----------------+
5 rows in set (0.00 sec)

mysql>
```

8.

```
mysql>
mysql> SELECT pi.Party_name, IFNULL(p.Name, 'No Politicians') AS Politic
ian_Name
    -> FROM PartyInfo pi
    -> LEFT JOIN Politicians p ON pi.PartyID = p.P_ID;
+--------------------------+----------------+
| Party_name               | Politician_Name |
+--------------------------+----------------+
| Aam Aadmi Party          | Manish Sisodia  |
| Bharatiya Janata Party   | Harsh Vardhan   |
| Bharatiya Janata Party   | Gautam Gambhir  |
| Indian National Congress | Ajay Makan      |
| Bahujan Samaj Party      | Laal Singh Arya |
| Samajwadi Party          | No Politicians  |
+--------------------------+----------------+
6 rows in set (0.00 sec)

mysql>
```

9.

```
mysql> SELECT * FROM Politicians NATURAL JOIN
    -> ElectionResults;
ERROR 1146 (42S02): Table 'indianpolitics.electionresults' doesn't exist
mysql>
```

No table named as electionresults

10.

```
mysql> SELECT a.Name AS Politician1, b.Name AS Politician2, a.P_ID, pi.P
arty_name
    -> FROM Politicians a
    -> JOIN Politicians b ON a.P_ID = b.P_ID AND a.PoliticianID <> b.Pol
iticianID
    -> JOIN PartyInfo pi ON a.P_ID = pi.PartyID;
+----------------+----------------+------+------------------------+
| Politician1    | Politician2    | P_ID | Party_name             |
+----------------+----------------+------+------------------------+
| Gautam Gambhir | Harsh Vardhan  |    2 | Bharatiya Janata Party |
| Harsh Vardhan  | Gautam Gambhir |    2 | Bharatiya Janata Party |
+----------------+----------------+------+------------------------+
2 rows in set (0.00 sec)

mysql>
```

11.

```
mysql> SELECT * FROM PartyInfo CROSS JOIN Politicians;
```

partyid	party_name	president	establishedyear	politicianID	name	termsserved	age	p_id
1	Aam Aadmi Party	Arwind Kejriwal	2012	101	Manish Sisodia	2	53	1
2	Bharatiya Janata Party	JP Nadda	1980	101	Manish Sisodia	2	53	1
3	Indian National Congress	Mallikarjun Kharge	1885	101	Manish Sisodia	2	53	1
4	Bahujan Samaj Party	Mayawati	1984	101	Manish Sisodia	2	53	1
5	Samajwadi Party	Mulayam Singh Yadav	1992	101	Manish Sisodia	2	53	1
1	Aam Aadmi Party	Arwind Kejriwal	2012	102	Harsh Vardhan	3	70	2
2	Bharatiya Janata Party	JP Nadda	1980	102	Harsh Vardhan	3	70	2
3	Indian National Congress	Mallikarjun Kharge	1885	102	Harsh Vardhan	3	70	2
4	Bahujan Samaj Party	Mayawati	1984	102	Harsh Vardhan	3	70	2
5	Samajwadi Party	Mulayam Singh Yadav	1992	102	Harsh Vardhan	3	70	2
1	Aam Aadmi Party	Arwind Kejriwal	2012	103	Ajay Makan	2	61	3
2	Bharatiya Janata Party	JP Nadda	1980	103	Ajay Makan	2	61	3
3	Indian National Congress	Mallikarjun Kharge	1885	103	Ajay Makan	2	61	3
4	Bahujan Samaj Party	Mayawati	1984	103	Ajay Makan	2	61	3
5	Samajwadi Party	Mulayam Singh Yadav	1992	103	Ajay Makan	2	61	3
1	Aam Aadmi Party	Arwind Kejriwal	2012	104	Laal Singh Arya	3	61	4
2	Bharatiya Janata Party	JP Nadda	1980	104	Laal Singh Arya	3	61	4
3	Indian National Congress	Mallikarjun Kharge	1885	104	Laal Singh Arya	3	61	4
4	Bahujan Samaj Party	Mayawati	1984	104	Laal Singh Arya	3	61	4
5	Samajwadi Party	Mulayam Singh Yadav	1992	104	Laal Singh Arya	3	61	4
1	Aam Aadmi Party	Arwind Kejriwal	2012	105	Gautam Gambhir	1	43	2
2	Bharatiya Janata Party	JP Nadda	1980	105	Gautam Gambhir	1	43	2
3	Indian National Congress	Mallikarjun Kharge	1885	105	Gautam Gambhir	1	43	2
4	Bahujan Samaj Party	Mayawati	1984	105	Gautam Gambhir	1	43	2
5	Samajwadi Party	Mulayam Singh Yadav	1992	105	Gautam Gambhir	1	43	2

```
25 rows in set (0.00 sec)

mysql>
```

12.

```
mysql> SELECT pi.Party_name, pi.President, p.Name
    -> FROM Politicians p
    -> JOIN PartyInfo pi ON p.P_ID = pi.PartyID
    -> JOIN Constituencies c ON p.PoliticianID = c.Pol_ID
    -> WHERE c.ConstituencyWon = 'East Delhi';
```

Party_name	President	Name
Bharatiya Janata Party	JP Nadda	Gautam Gambhir

```
1 row in set (0.00 sec)

mysql>
```

13.

```
mysql> SELECT p.Name, p.termsServed, pi.EstablishedYear, pi.President
    -> FROM Politicians p
    -> INNER JOIN PartyInfo pi ON p.P_ID = pi.PartyID;
+------------------+-------------+-----------------+--------------------+
| Name             | termsServed | EstablishedYear | President          |
+------------------+-------------+-----------------+--------------------+
| Manish Sisodia   |           2 |            2012 | Arwind Kejriwal    |
| Harsh Vardhan    |           3 |            1980 | JP Nadda           |
| Ajay Makan       |           2 |            1885 | Mallikarjun Kharge |
| Laal Singh Arya  |           3 |            1984 | Mayawati           |
| Gautam Gambhir   |           1 |            1980 | JP Nadda           |
+------------------+-------------+-----------------+--------------------+
5 rows in set (0.00 sec)

mysql>
```

14.

```
mysql> SELECT p.PoliticianID, p.Name, p.P_ID, pi.Party_name
    -> FROM Politicians p
    -> JOIN PartyInfo pi ON p.P_ID = pi.PartyID
    -> WHERE p.PoliticianID NOT IN (SELECT Pol_ID FROM Constituencies WH
ERE ConstituencyWon = 'Sadar Bazar');
+--------------+------------------+------+------------------------+
| PoliticianID | Name             | P_ID | Party_name             |
+--------------+------------------+------+------------------------+
|          101 | Manish Sisodia   |    1 | Aam Aadmi Party        |
|          102 | Harsh Vardhan    |    2 | Bharatiya Janata Party |
|          104 | Laal Singh Arya  |    4 | Bahujan Samaj Party    |
|          105 | Gautam Gambhir   |    2 | Bharatiya Janata Party |
+--------------+------------------+------+------------------------+
4 rows in set (0.00 sec)

mysql>
```

15.

```
mysql> SELECT pi.Party_name, AVG(p.Age) AS Average_Age
    -> FROM Politicians p
    -> JOIN PartyInfo pi ON p.P_ID = pi.PartyID
    -> GROUP BY pi.Party_name;
+--------------------------+-------------+
| Party_name               | Average_Age |
+--------------------------+-------------+
| Aam Aadmi Party          |          53 |
| Bahujan Samaj Party      |          61 |
| Bharatiya Janata Party   |        56.5 |
| Indian National Congress |          61 |
+--------------------------+-------------+
4 rows in set (0.00 sec)

mysql>
```

16.

```
mysql> SELECT a.Name AS Politician1, b.Name AS Politician2, a.P_ID, pi.Party_name, c.ConstituencyWon
    -> FROM Politicians a
    -> JOIN Politicians b ON a.P_ID = b.P_ID AND a.PoliticianID <> b.PoliticianID
    -> JOIN PartyInfo pi ON a.P_ID = pi.PartyID
    -> JOIN Constituencies c ON a.PoliticianID = c.Pol_ID;
+----------------+----------------+------+-----------------------+-----------------+
| Politician1    | Politician2    | P_ID | Party_name            | ConstituencyWon |
+----------------+----------------+------+-----------------------+-----------------+
| Gautam Gambhir | Harsh Vardhan  |    2 | Bharatiya Janata Party | East Delhi     |
| Harsh Vardhan  | Gautam Gambhir |    2 | Bharatiya Janata Party | Krishna Nagar  |
+----------------+----------------+------+-----------------------+-----------------+
2 rows in set (0.00 sec)

mysql>
```

```
mysql> DROP TABLE Constituencies;
Query OK, 0 rows affected (0.01 sec)

mysql> DROP TABLE Politicians;
Query OK, 0 rows affected (0.01 sec)

mysql> DROP TABLE PartyInfo;
Query OK, 0 rows affected (0.01 sec)

mysql> DROP DATABASE IndianPolitics;
Query OK, 0 rows affected (0.01 sec)

mysql>
```