DBMS MINI PROJECT

Description:

This is a database of an IT company like Amazon which manages sales and purchases of varied products fulfiiling the various needs of life.

The database contains 8 tables namely-Departments,Employees,Projects, Customers,Sellers,Products,Transaction and Archives.The comapny maintains all the records of it's employees in the table named Employees which includes information like name,address,did which it obtains from the Departments table to showcase to which department the respective employee is associated to,Pid which it derives from the Projects table so that all the information about his/her current project can be obtained from the Projects table.

The company also mainatains the records of all of its customers and the product that he/she has ordered through the table Products which conatins all the information regarding that product like it's description and price.

The organisation also looks to provide the local sellers a platform to sell their products to a larger consumer space by maintaining their records in the Sellers table along with their information and a reference to the product which they look to introduce into the market whose information is made available in the Products table.

As we are into exchanging goods and services, all the transactions are recorded in a table named Transactions which has reference to Customer,Product and Seller from which we can easily extract all the information regarding each transaction like Product name,price,customer's delivery location,etc.

Further,since the company is regularly updating all it's records for removing any redundancy or false data,we have also maintained a log file which contains all the information regarding the updates that are made in the database for a better , safer and an error-free database.

Schema

1. Departments :— The table consists of information about all the departments in the company.

   Did primary key,
   Name,Head,Desc,Strength

```
mysql> select * from Departments;
+-----+------------------+----------------+------------------------------------------------------------+----------+
| Did | Name             | Head           | Description                                                | Strength |
+-----+------------------+----------------+------------------------------------------------------------+----------+
|   1 | HR               | Hemanth        | Finding, screening, recruiting, and training job applicants. |      1 |
|   2 | Application      | Jeff Bezos     | Handling and adding new features to the website and App.   |        1 |
|   3 | AI               | Mark Henry     | Developing and improving the AI facilites.                 |        1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                                  |        3 |
|   5 | Customer Support | Chandler Bing  | To solve the issues of customers and analyse their feedback. |      2 |
+-----+------------------+----------------+------------------------------------------------------------+----------+
5 rows in set (0.00 sec)
```

2. Employees :- The table consists of information about the employees of the company.

   Eid primary key,Name,
   Did Foreign key Department,
   Gender,Address,Dob,Contact,Email,Salary,Pid

```
mysql> select * from Employees;
+-----+---------------------+-----+--------+----------------------------+------------+------------+-------------------------+--------+------+
| Eid | Name                | Did | Gender | Address                    | Dob        | Contact    | Email                   | Salary | Pid  |
+-----+---------------------+-----+--------+----------------------------+------------+------------+-------------------------+--------+------+
|   1 | Hemanth             |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com      | 280000 | NULL |
|   2 | Joey Tribbiani      |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com   | 500000 |    3 |
|   3 | Jeff Bezos          |   2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com      | 990000 | NULL |
|   4 | Chandler Bing       |   5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com    | 700000 |    1 |
|   5 | Mark Henry          |   3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com         | 666000 | NULL |
|   6 | Monica Geller Bing  |   5 | Female | Central Perk, NY           | 1983-03-03 | 7688994455 | ilchandler@bing.com    | 100000 |    1 |
|   7 | Pheobe Buffay       |   4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com    |  77000 |    2 |
|   9 | Bradd hulfman       |   4 | Male   | Bhagwan Vilas,New-Delhi    | 1986-04-14 | 8787395548 | str1@gmail.com         |  74560 |    2 |
+-----+---------------------+-----+--------+----------------------------+------------+------------+-------------------------+--------+------+
8 rows in set (0.00 sec)
```

3. Projects :- The table consists of information about the ongoing and completed projects undertaken by the company.

Pid Primary key,

Title,Budget,

Hid Foreign key Employees,

Estimated_Time,Status

```
mysql> select * from Projects;
+-----+----------------------+---------+------+----------------+-----------+
| Pid | Title                | Budget  | Hid  | Estimated_Time | Status    |
+-----+----------------------+---------+------+----------------+-----------+
|   1 | AI Bot               | 1000000 |    5 |             13 | Approved  |
|   2 | New UI for app       |  500000 |    3 |              5 | Completed |
|   3 | New website marketing |  300000 |    2 |              2 | Approved  |
+-----+----------------------+---------+------+----------------+-----------+
3 rows in set (0.00 sec)
```

4. Customers :-   The table consists of
   information about the customers who purchase
   goods through company's platform.

   Cid primary key
   Name,Address,Contact,Email

```
mysql> select * from Customers
    -> ;
+-----+---------+-----------------------------+------------+--------------------+
| Cid | Name    | Address                     | Contact    | Email              |
+-----+---------+-----------------------------+------------+--------------------+
|   1 | Virat   | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com    |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com  |
|   3 | Ronaldo | Sweet Homes,Hyderabad       | 9341010211 | Ronaldo@gmail.com  |
|   4 | Graham  | Bhagwan Vilas,New-Delhi     | 9900105609 | Graham@gmail.com   |
|   5 | Bradman | Villa 8 Juhu,Mumbai         | 8900145011 | Bradman@gmail.com  |
|   6 | Nathan  | Bhagwati colony,Mumbai      | 8900145011 | Nathan@gmail.com   |
|   7 | Vrinda  | Mariana meadows,Chennai     | 8900145011 | Vrinda@gmail.com   |
+-----+---------+-----------------------------+------------+--------------------+
7 rows in set (0.00 sec)
```

5. Sellers :-   The table consists of information
   about the sellers with the company.

   Sid primary key

Name,Address,Contact

```
mysql> select * from Sellers;
+-----+----------+------------------------------+------------+
| Sid | Name     | Address                      | Contact    |
+-----+----------+------------------------------+------------+
|   1 | Vyom     | Gate 344 Jala,Kanyakumari    | 9870101011 |
|   2 | Rohini   | House 238 Lekahalli,Kashmir  | 9137701011 |
|   3 | Rakshit  | Agni Homes,Pune              | 9341010257 |
|   4 | Riya     | Poorna Vilas,Chandigarh      | 9380105609 |
|   5 | Akanksha | Villa 238 Juhuni,Guwahati    | 8975145010 |
|   6 | Nishtha  | Bhagwan vilas colony,Udupi   | 8903215011 |
+-----+----------+------------------------------+------------+
6 rows in set (0.00 sec)
```

6. Products :- The table consists of information about the products sold by different sellers.

Gid primary key

Name,Description,Price

Sid Foreign Key Sellers

```
mysql> select * from Products;
+-----+-----------------+-----------------------------------------------------------+--------+-----+
| Gid | Name            | Description                                                | Price  | Sid |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features      |  20000 |   6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life        |  90000 |   3 |
|   3 | Saffola Blankets| Makes winters warmer with double layered wool             |   5000 |   2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB)| 20000 |   1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                    | 100000 |   4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                  | 250000 |   5 |
|   7 | Earybuds REALME | Earbuds                                                   |   2000 |   1 |
|   8 | Samsung m12     | 4K Ultra HD Certified Android Smart tv 52inches           | 120000 |   4 |
|   9 | Ajanta 224      | 24 Carot gold with pure embedded diamond                  | 150000 |   2 |
|  10 | Earybuds REALME | Earbuds                                                   |   2000 |   2 |
|  11 | Samsung m12     | 4K Ultra HD Certified Android Smart tv 52inches           | 120000 |   2 |
|  12 | Ajanta 224      | 24 Carot gold with pure embedded diamond                  | 150000 |   3 |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
12 rows in set (0.00 sec)
```

7. Transaction :- The table consists of information about all the orders taken place on the company's website.

Tid primary key

Gid Foreign Key Products

Cid Foreign Key Customers

```
mysql> select * from Transaction;
+-----+------+------+
| Tid | Gid  | Cid  |
+-----+------+------+
|  1  |  1   |   5  |
|  2  |  2   |   3  |
|  3  |  3   |   1  |
|  4  |  4   |   4  |
|  5  |  5   |   6  |
|  6  |  6   |   2  |
+-----+------+------+
6 rows in set (0.00 sec)
```

8.Archives :- It is a log file which maintains the status of the employee's records in the company's database.

Id primary key,
Name,Adress,Contact,Email,changedon,action

```
mysql> select * from archives;
+----+-------------+-----------------------------+------------+------------------+---------------------+--------+
| id | Name        | Address                     | Contact    | Email            | changedon           | action |
+----+-------------+-----------------------------+------------+------------------+---------------------+--------+
|  1 | Ramesh      | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com  | 2021-04-07 01:01:25 | update |
|  2 | Rohit       | House 8 Bilekahalli,Mangalore| 9567701011| Rohit@gmail.com  | 2021-04-07 01:02:55 | update |
|  3 | Graham      | Bhagwan Vilas,New-Delhi     | 9900105609 | Graham@gmail.com | 2021-04-11 11:15:55 | update |
|  4 | Vrinda      | Mariana meadows,Chennai     | 8900145011 | Vrinda@gmail.com | 2021-04-11 11:16:07 | update |
|  5 | Rohit Sharma| House 8 Bilekahalli,Mangalore| 9567701011| Rohit@gmail.com  | 2021-04-11 11:16:18 | update |
+----+-------------+-----------------------------+------------+------------------+---------------------+--------+
5 rows in set (0.00 sec)

mysql> desc archives;
+-----------+-------------+------+-----+---------+----------------+
| Field     | Type        | Null | Key | Default | Extra          |
+-----------+-------------+------+-----+---------+----------------+
| id        | int         | NO   | PRI | NULL    | auto_increment |
| Name      | varchar(50) | NO   |     | NULL    |                |
| Address   | varchar(50) | NO   |     | NULL    |                |
| Contact   | varchar(50) | NO   |     | NULL    |                |
| Email     | varchar(50) | NO   |     | NULL    |                |
| changedon | datetime    | YES  |     | NULL    |                |
| action    | varchar(50) | YES  |     | NULL    |                |
+-----------+-------------+------+-----+---------+----------------+
7 rows in set (0.00 sec)
```

SIMPLE QUERIES :

1) List the employees who are heading a project.

```
mysql> select * from Projects;
+-----+---------------------+--------+-----+----------------+-----------+
| Pid | Title               | Budget | Hid | Estimated_Time | Status    |
+-----+---------------------+--------+-----+----------------+-----------+
|   1 | AI Bot              | 1000000|   5 |             13 | Completed |
|   2 | New UI for app      | 500000 |   3 |              5 | Completed |
|   3 | New website marketing| 300000 |   2 |              2 | Approved  |
+-----+---------------------+--------+-----+----------------+-----------+
3 rows in set (0.00 sec)

mysql> select * from Employees ;
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                 | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune         | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen    | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing|   5 | Female | Central Perk, NY        | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
7 rows in set (0.00 sec)

mysql> select * from Employees where Eid in(select Hid from Projects);
+-----+----------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
| Eid | Name           | Did | Gender | Address                 | Dob        | Contact    | Email                | Salary | Pid  |
+-----+----------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
|   5 | Mark Henry     |   3 | Male   | Mariana meadows,Chennai | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   3 | Jeff Bezos     |   2 | Male   | Agni Homes,Pune         | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   2 | Joey Tribbiani |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
+-----+----------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
3 rows in set (0.00 sec)
```

2) update phone number of employee

```
mysql> select * from Employees;
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                 | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune         | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen    | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing|   5 | Female | Central Perk, NY        | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   8 | George Bentley    |   2 | Male   | Global Village,Ahmedabad | 1955-12-17 | 9989098790 | Bent@gmail.com       |  80000 |    2 |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
8 rows in set (0.00 sec)

mysql> update Employees set Contact="9923452312" where Eid=3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Employees;
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                 | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune         | 1969-10-10 | 9923452312 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen    | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing|   5 | Female | Central Perk, NY        | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   8 | George Bentley    |   2 | Male   | Global Village,Ahmedabad | 1955-12-17 | 9989098790 | Bent@gmail.com       |  80000 |    2 |
+-----+-------------------+-----+--------+-------------------------+------------+------------+----------------------+--------+------+
8 rows in set (0.00 sec)
```

3)Updating status of a project

```
mysql> select * from Projects;
+-----+---------------------+---------+------+----------------+-----------+
| Pid | Title               | Budget  | Hid  | Estimated_Time | Status    |
+-----+---------------------+---------+------+----------------+-----------+
|   1 | AI Bot              | 1000000 |    5 |             13 | Approved  |
|   2 | New UI for app      |  500000 |    3 |              5 | Completed |
|   3 | New website marketing |  300000 |    2 |              2 | Approved  |
+-----+---------------------+---------+------+----------------+-----------+
3 rows in set (0.00 sec)

mysql> update Projects set Status =
    -> 'Completed' where Pid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Projects;
+-----+---------------------+---------+------+----------------+-----------+
| Pid | Title               | Budget  | Hid  | Estimated_Time | Status    |
+-----+---------------------+---------+------+----------------+-----------+
|   1 | AI Bot              | 1000000 |    5 |             13 | Completed |
|   2 | New UI for app      |  500000 |    3 |              5 | Completed |
|   3 | New website marketing |  300000 |    2 |              2 | Approved  |
+-----+---------------------+---------+------+----------------+-----------+
3 rows in set (0.00 sec)
```

4)Removing/Adding sellers

```
mysql> select * from Sellers;
+-----+----------+----------------------------+------------+
| Sid | Name     | Address                    | Contact    |
+-----+----------+----------------------------+------------+
|   1 | Vyom     | Gate 344 Jala,Kanyakumari   | 9870101011 |
|   2 | Rohini   | House 238 Lekahalli,Kashmir | 9137701011 |
|   3 | Rakshit  | Agni Homes,Pune            | 9341010257 |
|   4 | Riya     | Poorna Vilas,Chandigarh    | 9380105609 |
|   5 | Akanksha | Villa 238 Juhuni,Guwahati  | 8975145010 |
|   6 | Nishtha  | Bhagwan vilas colony,Udupi | 8903215011 |
|   7 | sam      | Lincoln Park Road          | 6493090902 |
+-----+----------+----------------------------+------------+
7 rows in set (0.00 sec)

mysql> delete from Sellers where Sid=7;
Query OK, 1 row affected (0.01 sec)

mysql> select * from Sellers;
+-----+----------+----------------------------+------------+
| Sid | Name     | Address                    | Contact    |
+-----+----------+----------------------------+------------+
|   1 | Vyom     | Gate 344 Jala,Kanyakumari   | 9870101011 |
|   2 | Rohini   | House 238 Lekahalli,Kashmir | 9137701011 |
|   3 | Rakshit  | Agni Homes,Pune            | 9341010257 |
|   4 | Riya     | Poorna Vilas,Chandigarh    | 9380105609 |
|   5 | Akanksha | Villa 238 Juhuni,Guwahati  | 8975145010 |
|   6 | Nishtha  | Bhagwan vilas colony,Udupi | 8903215011 |
+-----+----------+----------------------------+------------+
6 rows in set (0.00 sec)
```

5) Employees not associated with any projects

```
mysql> select * from Employees where Pid is null;
+-----+------------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
| Eid | Name       | Did | Gender | Address                   | Dob        | Contact    | Email             | Salary | Pid  |
+-----+------------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
|   1 | Hemanth    |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com | 280000 | NULL |
|   3 | Jeff Bezos |   2 | Male   | Agni Homes,Pune           | 1969-10-10 | 7788993322 | iamjeff@gmail.com | 990000 | NULL |
|   5 | Mark Henry |   3 | Male   | Mariana meadows,Chennai   | 1976-02-02 | 9898776077 | mark@henry.com    | 666000 | NULL |
+-----+------------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
3 rows in set (0.00 sec)
```

6) Count total customers company have/had

```
mysql> select * from products;
+-----+-----------------+-----------------------------------------------------------+--------+-----+
| Gid | Name            | Description                                               | Price  | Sid |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features     |  20000 |   6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life       |  90000 |   3 |
|   3 | Saffola Blankets| Makes winters warmer with double layered wool            |   5000 |   2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB) | 20000 |   1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                   | 100000 |   4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                 | 250000 |   5 |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
6 rows in set (0.00 sec)

mysql> update products set price=350000 where Name='Ajanta';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from products;
+-----+-----------------+-----------------------------------------------------------+--------+-----+
| Gid | Name            | Description                                               | Price  | Sid |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features     |  20000 |   6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life       |  90000 |   3 |
|   3 | Saffola Blankets| Makes winters warmer with double layered wool            |   5000 |   2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB) | 20000 |   1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                   | 100000 |   4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                 | 350000 |   5 |
+-----+-----------------+-----------------------------------------------------------+--------+-----+
6 rows in set (0.00 sec)
```

7)Budget of each project

```
mysql> select Title,Budget from projects;
+----------------------+---------+
| Title                | Budget  |
+----------------------+---------+
| AI Bot               | 1000000 |
| New UI for app       |  500000 |
| New website marketing |  300000 |
+----------------------+---------+
3 rows in set (0.00 sec)
```

8)Employees belonging to HR dept

```
mysql> select * from Departments;
+-----+-----------------+---------------+-----------------------------------------------------------+----------+
| Did | Name            | Head          | Description                                               | Strength |
+-----+-----------------+---------------+-----------------------------------------------------------+----------+
|   1 | HR              | Hemanth       | Finding, screening, recruiting, and training job applicants. |     0 |
|   2 | Application     | Jeff Bezos    | Handling and adding new features to the website and App. |        0 |
|   3 | AI              | Mark Henry    | Developing and improving the AI facilites.               |        0 |
|   4 | Marketing       | Joey Tribbiani| Marketing of the product.                                |        0 |
|   5 | Customer Support| Chandler Bing | To solve the issues of customers and analyse their feedback. |     0 |
+-----+-----------------+---------------+-----------------------------------------------------------+----------+
5 rows in set (0.00 sec)

mysql> select * from Employees where Did=1;
+-----+---------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
| Eid | Name    | Did | Gender | Address                   | Dob        | Contact    | Email             | Salary | Pid  |
+-----+---------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
|   1 | Hemanth |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com | 280000 | NULL |
+-----+---------+-----+--------+---------------------------+------------+------------+-------------------+--------+------+
1 row in set (0.00 sec)
```

9)Employees with salary equal to max salary

```
mysql> select * from Employees
    -> ;
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                    | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |  5 | Female | Central Perk, NY           | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+--------+------+
7 rows in set (0.00 sec)

mysql> select * from Employees as e where e.Salary=(select max(Salary) from Employees);
+-----+------------+-----+--------+-----------------+------------+------------+-------------------+--------+------+
| Eid | Name       | Did | Gender | Address         | Dob        | Contact    | Email             | Salary | Pid  |
+-----+------------+-----+--------+-----------------+------------+------------+-------------------+--------+------+
|   3 | Jeff Bezos |   2 | Male   | Agni Homes,Pune | 1969-10-10 | 7788993322 | iamjeff@gmail.com | 990000 | NULL |
+-----+------------+-----+--------+-----------------+------------+------------+-------------------+--------+------+
1 row in set (0.00 sec)
```

10)Total Customers of company

```
mysql> select * from customers;
+-----+---------+-------------------------------+------------+---------------------+
| Cid | Name    | Address                       | Contact    | Email               |
+-----+---------+-------------------------------+------------+---------------------+
|   1 | Virat   | Gate 4 Jalahalli,Bangalore    | 9900101011 | Virat@gmail.com     |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com     |
|   3 | Ronaldo | Sweet Homes,Hyderabad         | 9341010211 | Ronaldo@gmail.com   |
|   4 | Graham  | Bhagwan Vilas,New-Delhi       | 9900105609 | Graham@gmail.com    |
|   5 | Bradman | Villa 8 Juhu,Mumbai           | 8900145011 | Bradman@gmail.com   |
|   6 | Nathan  | Bhagwati colony,Mumbai        | 8900145011 | Nathan@gmail.com    |
|   7 | Vrinda  | Mariana meadows,Chennai       | 8900145011 | Vrinda@gmail.com    |
+-----+---------+-------------------------------+------------+---------------------+
7 rows in set (0.00 sec)

mysql> select count(*) as COUNT_OF_CUSTOMERS from customers;
+--------------------+
| COUNT_OF_CUSTOMERS |
+--------------------+
|                  7 |
+--------------------+
1 row in set (0.00 sec)
```

COMPLEX QUERIES:

NESTED QUERIES
1)Employee heading more than 1 project

```
mysql> select * from Employees;
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+---------+------+
| Eid | Name              | Did | Gender | Address                    | Dob        | Contact    | Email                | Salary  | Pid  |
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+---------+------+
|   1 | Hemanth           |   2 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    |  280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com |  607753 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 1203350 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com  |  700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com       |  809527 | NULL |
|   6 | Monica Geller Bing |  5 | Female | Central Perk, NY           | 1983-03-03 | 7688994455 | ilchandler@bing.com  |  100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com  |   77000 |    2 |
+-----+-------------------+-----+--------+----------------------------+------------+------------+----------------------+---------+------+
7 rows in set (0.00 sec)

mysql> select * from Projects;
+-----+---------------------------+----------+-----+----------------+-----------+
| Pid | Title                     | Budget   | Hid | Estimated_Time | Status    |
+-----+---------------------------+----------+-----+----------------+-----------+
|   1 | AI Bot                    |  1000000 |   5 |             13 | Approved  |
|   2 | New UI for app            |   500000 |   3 |              5 | Completed |
|   3 | New website marketing     |   300000 |   2 |              2 | Approved  |
|   4 | Improved Transaction Security | 10020000 | 2 |          11 | Approved  |
+-----+---------------------------+----------+-----+----------------+-----------+
4 rows in set (0.00 sec)

mysql> select Eid,Name from Employees where Eid in(select Hid from Projects group by Hid having count(*)>1);
+-----+----------------+
| Eid | Name           |
+-----+----------------+
|   2 | Joey Tribbiani |
+-----+----------------+
1 row in set (0.00 sec)
```

2)Increment the salary of the head of a completed project by 5%.

```
mysql> update Employees set Salary=1.05*Salary where Eid in (select Hid from Projects );
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> select * from Employees;
+-----+--------------------+------+--------+----------------------------+------------+------------+---------------------+--------+------+
| Eid | Name               | Did  | Gender | Address                    | Dob        | Contact    | Email               | Salary | Pid  |
+-----+--------------------+------+--------+----------------------------+------------+------------+---------------------+--------+------+
|   1 | Hemanth            |    2 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com   | 280000 | NULL |
|   2 | Joey Tribbiani     |    4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com| 525000 |    3 |
|   3 | Jeff Bezos         |    2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com   | 1039500| NULL |
|   4 | Chandler Bing      |    5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com | 700000 |    1 |
|   5 | Mark Henry         |    3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com      | 699300 | NULL |
|   6 | Monica Geller Bing |    5 | Female | Central Perk, NY           | 1983-03-03 | 7688994455 | ilchandler@bing.com | 100000 |    1 |
|   7 | Pheobe Buffay      |    4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com |  77000 |    2 |
+-----+--------------------+------+--------+----------------------------+------------+------------+---------------------+--------+------+
7 rows in set (0.00 sec)
```

3)Products with price greater than 100000 and with 0 customers

```
mysql> select * from Products;
+-----+-----------------+----------------------------------------------------------------+--------+------+
| Gid | Name            | Description                                                    | Price  | Sid  |
+-----+-----------------+----------------------------------------------------------------+--------+------+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features          |  20000 |    6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life            |  90000 |    3 |
|   3 | Saffola Blankets| Makes winters warmer with double layered wool                 |   5000 |    2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB)   |  20000 |    1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                        | 100000 |    4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                      | 250000 |    5 |
|   7 | LG X56          | A cellphone with 2GHz Octa-core Helio G25 Processor           | 200000 |    3 |
+-----+-----------------+----------------------------------------------------------------+--------+------+
7 rows in set (0.00 sec)

mysql> select * from Products where Gid not in (select Gid from Transaction where Gid=Products.Gid);
+-----+--------+-----------------------------------------------------+--------+------+
| Gid | Name   | Description                                         | Price  | Sid  |
+-----+--------+-----------------------------------------------------+--------+------+
|   7 | LG X56 | A cellphone with 2GHz Octa-core Helio G25 Processor | 200000 |    3 |
+-----+--------+-----------------------------------------------------+--------+------+
1 row in set (0.00 sec)
```

4)Updating Strength Of each department

```
mysql> insert into Employees values(11,"Bradd hulfman",4,"Male","Bhagwan Vilas,New-Delhi","1986-4-14","8787395548","str1@gmail.com",74560,2);
Query OK, 1 row affected (0.01 sec)
```

a new employee is inserted to table a nested query is performed
to update strength of department table.

```
mysql> select * from departments;
+-----+------------------+----------------+----------------------------------------------------------+----------+
| Did | Name             | Head           | Description                                               | Strength |
+-----+------------------+----------------+----------------------------------------------------------+----------+
|   1 | HR               | Hemanth        | Finding, screening, recruiting, and training job applicants. |    1 |
|   2 | Application      | Jeff Bezos     | Handling and adding new features to the website and App. |    3 |
|   3 | AI               | Mark Henry     | Developing and improving the AI facilites.               |    1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                                |    2 |
|   5 | Customer Support | Chandler Bing  | To solve the issues of customers and analyse their feedback. |  2 |
+-----+------------------+----------------+----------------------------------------------------------+----------+
5 rows in set (0.00 sec)

mysql> update departments d set strength=(select cnt from (select Did,COUNT(*)as  cnt from Employees e where d.Did=e.Did group by Did)t);
Query OK, 1 row affected (0.01 sec)
Rows matched: 5  Changed: 1  Warnings: 0

mysql> select * from departments;
+-----+------------------+----------------+----------------------------------------------------------+----------+
| Did | Name             | Head           | Description                                               | Strength |
+-----+------------------+----------------+----------------------------------------------------------+----------+
|   1 | HR               | Hemanth        | Finding, screening, recruiting, and training job applicants. |    1 |
|   2 | Application      | Jeff Bezos     | Handling and adding new features to the website and App. |    3 |
|   3 | AI               | Mark Henry     | Developing and improving the AI facilites.               |    1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                                |    3 |
|   5 | Customer Support | Chandler Bing  | To solve the issues of customers and analyse their feedback. |  2 |
+-----+------------------+----------------+----------------------------------------------------------+----------+
5 rows in set (0.00 sec)
```

CORRELATED QUERIES:

5)List all the customers who have purchased at least one product.

```
mysql> select * from Customers where exists(select Cid from Transaction where Cid=Customers.Cid);
+-----+---------+---------------------------+------------+----------------------+
| Cid | Name    | Address                   | Contact    | Email                |
+-----+---------+---------------------------+------------+----------------------+
|   1 | Virat   | Gate 4 Jalahalli,Bangalore | 9900101011 | Virat@gmail.com     |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com  |
|   3 | Ronaldo | Sweet Homes,Hyderabad     | 9341010211 | Ronaldo@gmail.com   |
|   4 | Graham  | Bhagwan Vilas,New-Delhi   | 9900105609 | Graham@gmail.com    |
|   5 | Bradman | Villa 8 Juhu,Mumbai       | 8900145011 | Bradman@gmail.com   |
|   6 | Nathan  | Bhagwati colony,Mumbai    | 8900145011 | Nathan@gmail.com    |
+-----+---------+---------------------------+------------+----------------------+
6 rows in set (0.00 sec)
```

6)List all the products sold

```
mysql> select * from Products where exists(select Gid from Transaction where Gid=Products.Gid);
+-----+-----------------+--------------------------------------------------------------+--------+-----+
| Gid | Name            | Description                                                  | Price  | Sid |
+-----+-----------------+--------------------------------------------------------------+--------+-----+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features        |  20000 |   6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life          |  90000 |   3 |
|   3 | Saffola Blankets | Makes winters warmer with double layered wool              |   5000 |   2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB) |  20000 |   1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                      | 100000 |   4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                    | 250000 |   5 |
+-----+-----------------+--------------------------------------------------------------+--------+-----+
6 rows in set (0.00 sec)
```

7)Finding departments having 0 employees

```
mysql> select Did,Name from Departments where not exists(select Did from Employees where Did=Departments.Did);
+-----+------+
| Did | Name |
+-----+------+
|   1 | HR   |
+-----+------+
1 row in set (0.00 sec)
```

VIEWS:

1)Write a query to create a view that shows for each order the salesman and customer by name and price.

```
mysql> create view Order_Details as
    ->
    -> select Tid as 'Order ID', S.Name as Seller, C.Name as Customer, Price
    ->
    -> from Transaction T,Sellers S,Customers C,Products P
    ->
    -> where T.Gid=P.Gid and T.Cid=C.Cid and P.Sid=S.Sid;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from Order_Details;
+----------+----------+----------+--------+
| Order ID | Seller   | Customer | Price  |
+----------+----------+----------+--------+
|        1 | Nishtha  | Bradman  |  20000 |
|        2 | Rakshit  | Ronaldo  |  90000 |
|        3 | Rohini   | Virat    |   5000 |
|        4 | Vyom     | Graham   |  20000 |
|        5 | Riya     | Nathan   | 100000 |
|        6 | Akanksha | Rohit    | 250000 |
+----------+----------+----------+--------+
6 rows in set (0.00 sec)

mysql> 
```

2)Write a query to create a view that shows all the employee's name and department whose salary is greater than 1,00,000.

```
mysql> select E.Name as Name, D.Name as Department
    ->
    -> from Employees E,Departments D
    ->
    -> where E.Salary>100000 and E.Did=D.Did;
+------------------+-------------------+
| Name             | Department        |
+------------------+-------------------+
| Hemanth          | HR                |
| Joey Tribbiani   | Marketing         |
| Jeff Bezos       | Application       |
| Chandler Bing    | Customer Support  |
| Mark Henry       | AI                |
+------------------+-------------------+
5 rows in set (0.00 sec)

mysql> create view Rich_Employees as
    ->
    -> select E.Name as Name, D.Name as Department
    ->
    -> from Employees E,Departments D
    ->
    -> where E.Salary>100000 and E.Did=D.Did;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from Rich_Employees;
+------------------+-------------------+
| Name             | Department        |
+------------------+-------------------+
| Hemanth          | HR                |
| Joey Tribbiani   | Marketing         |
| Jeff Bezos       | Application       |
| Chandler Bing    | Customer Support  |
| Mark Henry       | AI                |
+------------------+-------------------+
5 rows in set (0.00 sec)

mysql>
```

3)Write a query to create a view that shows the list of employees whose

age>=40

```
mysql> create view Senior_Employees as
    -> select Name from Employees
    -> where
    -> DATEDIFF(curdate(),Dob)/365 >=40;
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> select * from Senior_Employees;
+----------------+
| Name           |
+----------------+
| Hemanth        |
| Joey Tribbiani |
| Jeff Bezos     |
| Chandler Bing  |
| Mark Henry     |
+----------------+
5 rows in set (0.00 sec)

mysql>
```

4)Write a query to create a view to get the name,emails and contact info of all the department heads for the annual company meeting.

```
mysql> create view Heads_Details as
    -> select E.Name as Name, Email, Contact
    -> from Employees E,Departments D
    -> where D.Head=E.Name;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from Head_Details;
ERROR 1146 (42S02): Table 'Project1.Head_Details' doesn't exist
mysql> select * from Heads_Details;
+----------------+----------------------+------------+
| Name           | Email                | Contact    |
+----------------+----------------------+------------+
| Hemanth        | hemanth@gmail.com    | 9567701011 |
| Joey Tribbiani | howyoudoin@gmail.com | 9787666643 |
| Jeff Bezos     | iamjeff@gmail.com    | 7788993322 |
| Chandler Bing  | ilmonica@geller.com  | 8339447901 |
| Mark Henry     | mark@henry.com       | 9898776077 |
+----------------+----------------------+------------+
5 rows in set (0.01 sec)

mysql>
```

5)Write a query to create a view to get the product details along with their seller name.

```
mysql> create view Products_Detail as
    -> select P.Name as Name,Description,Price,S.Name as Seller
    -> from Products P,Sellers S
    -> where P.Sid=S.Sid Order By P.Name;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from Products_Detail;
+-----------------+--------------------------------------------------------------+--------+----------+
| Name            | Description                                                   | Price  | Seller   |
+-----------------+--------------------------------------------------------------+--------+----------+
| Ajanta          | 27 Carot gold with pure embedded diamond                     | 250000 | Akanksha |
| Ajanta 224      | 24 Carot gold with pure embedded diamond                     | 150000 | Rohini   |
| Ajanta 224      | 24 Carot gold with pure embedded diamond                     | 150000 | Rakshit  |
| Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB) |  20000 | Vyom     |
| Earybuds REALME | Earbuds                                                      |   2000 | Vyom     |
| Earybuds REALME | Earbuds                                                      |   2000 | Rohini   |
| Iphone 38       | A cellphone with 48MP camera and the latest features         |  20000 | Nishtha  |
| Lenovo s800     | Worlds sleekest designed laptop to power your life           |  90000 | Rakshit  |
| Saffola Blankets| Makes winters warmer with double layered wool                |   5000 | Rohini   |
| Samsung A7000   | 4K Ultra HD Certified Android Smart tv                       | 100000 | Riya     |
| Samsung m12     | 4K Ultra HD Certified Android Smart tv 52inches              | 120000 | Rohini   |
| Samsung m12     | 4K Ultra HD Certified Android Smart tv 52inches              | 120000 | Riya     |
+-----------------+--------------------------------------------------------------+--------+----------+
12 rows in set (0.00 sec)

mysql>
```

FUNCTIONS:

1)Taxes to be paid on basis of Salary

```
mysql> DELIMITER $$
mysql> CREATE FUNCTION tax_calcltr(
    ->     salary1 int
    -> )
    -> RETURNS double(10,4)
    -> DETERMINISTIC
    -> BEGIN
    ->     DECLARE tax double(10,4);
    ->     IF salary1 > 500000 THEN
    ->         SET tax= 0.18*salary1;
    ->     ELSEIF (salary1 <= 500000 AND
    ->             salary1 >= 300000) THEN
    ->         SET tax= 0.10*salary1;
    ->     ELSEIF salary1 < 300000 THEN
    ->         SET tax= 0.05*salary1;
    ->     END IF;
    ->     -- return the customer occupation
    ->     RETURN (tax);
    -> END$$
Query OK, 0 rows affected, 2 warnings (0.01 sec)

mysql> DELIMITER ;
mysql> select  tax_calcltr(100000);
+---------------------+
| tax_calcltr(100000) |
+---------------------+
|           5000.0000 |
+---------------------+
1 row in set (0.01 sec)

mysql> select  tax_calcltr(2900000);
+----------------------+
| tax_calcltr(2900000) |
+----------------------+
|          522000.0000 |
+----------------------+
1 row in set (0.00 sec)

mysql> select  tax_calcltr(2900);
+------------------+
| tax_calcltr(2900) |
+------------------+
|         145.0000 |
+------------------+
1 row in set (0.00 sec)

mysql>
```

2)Total sellers selling a particular product and price at which they are selling

```
mysql> CREATE FUNCTION total_sellers(
    ->    product varchar(50)
    -> )
    -> RETURNS int
    -> DETERMINISTIC
    -> BEGIN
    ->     select count(*) into @res  from Products where Name=product;
    ->     return @res;
    -> END$$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> select total_sellers('Earybuds REALME');
+--------------------------------+
| total_sellers('Earybuds REALME') |
+--------------------------------+
|                              2 |
+--------------------------------+
1 row in set (0.01 sec)

mysql> select total_sellers('Samsung m12');
+----------------------------+
| total_sellers('Samsung m12') |
+----------------------------+
|                          2 |
+----------------------------+
1 row in set (0.00 sec)

mysql>
```

3)Finding head of department

```
mysql> DELIMITER $$
mysql> CREATE FUNCTION HOD(
    ->     dept varchar(30)
    -> )
    -> RETURNS varchar(60)
    -> DETERMINISTIC
    -> BEGIN
    ->     declare c varchar(60);
    -> select Head into @res1 from Departments where Name =dept;
    ->     set c=@res1;
    ->     return c ;
    -> END$$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql>
mysql>
mysql> select HOD('HR');
+-----------+
| HOD('HR') |
+-----------+
| Hemanth   |
+-----------+
1 row in set (0.00 sec)

mysql> select HOD('Marketing');
+-----------------+
| HOD('Marketing') |
+-----------------+
| Joey Tribbiani  |
+-----------------+
1 row in set (0.00 sec)
```

4)Experience of employee

```
mysql> select * from Employees;
+-----+--------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
| Eid | Name               | Did | Gender | Address                   | Dob        | Contact    | Email                | Salary | Pid  |
+-----+--------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth            |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani     |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos         |   2 | Male   | Agni Homes,Pune           | 1969-10-10 | 9923452312 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing      |   5 | Male   | 16 Yemen Road, Yemen      | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry         |   3 | Male   | Mariana meadows,Chennai   | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |   5 | Female | Central Perk, NY          | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay      |   4 | Female | Bhagwan Vilas,New-Delhi   | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   8 | George Bentley     |   2 | Male   | Global Village,Ahmedabad  | 1955-12-17 | 9989098790 | Bent@gmail.com       |  80000 |    2 |
+-----+--------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
8 rows in set (0.00 sec)

mysql> DELIMITER //
mysql>
mysql> CREATE FUNCTION experience(date1 date) RETURNS int DETERMINISTIC
    -> BEGIN
    ->  DECLARE date2 DATE;
    ->   Select current_date() into date2;
    ->   RETURN year(date2)-year(date1);
    -> END
    ->
    -> //
Query OK, 0 rows affected (0.02 sec)

mysql> delimiter ;
mysql> Select Eid, Name, experience(Dob) as 'Experience' from Employees;
+-----+--------------------+------------+
| Eid | Name               | Experience |
+-----+--------------------+------------+
|   1 | Hemanth            |         50 |
|   2 | Joey Tribbiani     |         48 |
|   3 | Jeff Bezos         |         52 |
|   4 | Chandler Bing      |         40 |
|   5 | Mark Henry         |         45 |
|   6 | Monica Geller Bing |         38 |
|   7 | Pheobe Buffay      |         37 |
|   8 | George Bentley     |         66 |
+-----+--------------------+------------+
8 rows in set (0.00 sec)
```

5)function for finding top customer

```
mysql> DELIMITER $$
mysql> CREATE FUNCTION top__customer(
    -> )
    -> RETURNS varchar(60)
    -> DETERMINISTIC
    -> BEGIN
    ->     declare c varchar(60);
    ->     select max(cnt) into @val from(select Cid,count(*) as cnt   from transaction group by Cid)t;
    ->     select Cid into @id from(select Cid,count(*) as cnt   from transaction group by Cid)t where cnt=@val;
    ->     select Name into @res1 from Customers where Cid=@id;
    ->     set c=@res1;
    ->     return c ;
    -> END$$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> select top__customer1();
ERROR 1305 (42000): FUNCTION mp.top__customer1 does not exist
mysql> select top__customer();
+-----------------+
| top__customer() |
+-----------------+
| Rohit           |
+-----------------+
1 row in set (0.00 sec)
```

```
mysql> select * from customers;
+-----+---------+----------------------------+-------------+-------------------+
| Cid | Name    | Address                    | Contact     | Email             |
+-----+---------+----------------------------+-------------+-------------------+
|   1 | Virat   | Gate 4 Jalahalli,Bangalore | 9900101011  | Virat@gmail.com   |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com  |
|   3 | Ronaldo | Sweet Homes,Hyderabad      | 9341010211  | Ronaldo@gmail.com |
|   4 | Graham  | Bhagwan Vilas,New-Delhi    | 9900105609  | Graham@gmail.com  |
|   5 | Bradman | Villa 8 Juhu,Mumbai        | 8900145011  | Bradman@gmail.com |
|   6 | Nathan  | Bhagwati colony,Mumbai     | 8900145011  | Nathan@gmail.com  |
|   7 | Vrinda  | Mariana meadows,Chennai    | 8900145011  | Vrinda@gmail.com  |
+-----+---------+----------------------------+-------------+-------------------+
7 rows in set (0.00 sec)

mysql> select * from transaction;
+-----+------+------+
| Tid | Gid  | Cid  |
+-----+------+------+
|   1 |    1 |    5 |
|   2 |    2 |    3 |
|   3 |    3 |    1 |
|   4 |    4 |    4 |
|   5 |    5 |    6 |
|   6 |    6 |    2 |
|   7 |    6 |    2 |
+-----+------+------+
7 rows in set (0.00 sec)
```

PROCEDURES:

1)Finding pending projects and Finding total budget required for remaining projects

```
mysql> delimiter //
mysql> create procedure pendingprojects()
    -> begin
    -> select Budget,Title from Projects where Status="Approved";
    -> end //
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> call pendingprojectst();
    -> //
ERROR 1305 (42000): PROCEDURE mp.pendingprojectst does not exist
mysql> call pendingprojects();
    -> //
+--------+----------------------+
| Budget | Title                |
+--------+----------------------+
| 300000 | New website marketing |
+--------+----------------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.03 sec)
```

2)Net Profit of the company (company earns 10% of total cost at which product are sold through it)

```
mysql> create procedure profit(out netPr decimal(10,4))
    -> begin
    -> declare netProfit decimal(10,4);
    -> select sum(Price) into netProfit from Products where Gid in (select Gid from Transaction);
    -> set netPr=0.01*netProfit;
    -> end //
Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql> call profit(@netProfit);
Query OK, 1 row affected (0.00 sec)

mysql> select @netProfit;
+------------+
| @netProfit |
+------------+
|  5850.0000 |
+------------+
1 row in set (0.00 sec)
```

3)finding seller selling most number of products

```
mysql> create procedure seller_selling_maxItems()
    -> begin
    -> select max(cnt) into @count1 from (select Sid,count(*) as cnt from Products  group by Sid)t;
    -> select Sid into @usid from  (select Sid,count(*) as cnt from Products  group by Sid )t where cnt=@count1;
    -> select * from  Sellers where Sid=@usid;
    -> end //
Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql> call seller_selling_maxItems();
+-----+------+--------------------------+------------+
| Sid | Name | Address                  | Contact    |
+-----+------+--------------------------+------------+
|   4 | Riya | Poorna Vilas,Chandigarh  | 9380105609 |
+-----+------+--------------------------+------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.02 sec)

mysql> select * from Sellers;
+-----+----------+--------------------------+------------+
| Sid | Name     | Address                  | Contact    |
+-----+----------+--------------------------+------------+
|   1 | Vyom     | Gate 344 Jala,Kanyakumari | 9870101011 |
|   2 | Rohini   | House 238 Lekahalli,Kashmir | 9137701011 |
|   3 | Rakshit  | Agni Homes,Pune          | 9341010257 |
|   4 | Riya     | Poorna Vilas,Chandigarh  | 9380105609 |
|   5 | Akanksha | Villa 238 Juhuni,Guwahati | 8975145010 |
|   6 | Nishtha  | Bhagwan vilas colony,Udupi | 8903215011 |
+-----+----------+--------------------------+------------+
6 rows in set (0.00 sec)

mysql> select * from Products;
+-----+-----------------+---------------------------------------------------------+--------+-----+
| Gid | Name            | Description                                              | Price  | Sid |
+-----+-----------------+---------------------------------------------------------+--------+-----+
|   1 | Iphone 38       | A cellphone with 48MP camera and the latest features    |  20000 |   6 |
|   2 | Lenovo s800     | Worlds sleekest designed laptop to power your life      |  90000 |   3 |
|   3 | Saffola Blankets | Makes winters warmer with double layered wool          |   5000 |   2 |
|   4 | Earybuds        | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB) | 20000 | 1 |
|   5 | Samsung A7000   | 4K Ultra HD Certified Android Smart tv                  | 100000 |   4 |
|   6 | Ajanta          | 27 Carot gold with pure embedded diamond                | 350000 |   5 |
|   7 | Earybuds REALME | Earbuds                                                 |   2000 |   1 |
|   8 | Samsung m12     | 4K Ultra HD Certified Android Smart tv 52inches         | 120000 |   4 |
|   9 | Ajanta 224      | 24 Carot gold with pure embedded diamond                | 150000 |   4 |
+-----+-----------------+---------------------------------------------------------+--------+-----+
9 rows in set (0.00 sec)
```

4)Finding our best selling product

```
mysql> delimiter //
mysql> create procedure most_selling_product()
    -> begin
    -> select max(cnt) into @count1 from (select Gid,count(*) as cnt from transaction  group by Gid)t;
    -> select Gid into @gsid from  (select Gid,count(*) as cnt from transaction  group by Gid )v where cnt=@count1;
    -> select * from  Products where Gid=@gsid;
    -> end //
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> call most_selling_product();
    -> //
+-----+--------+--------------------------------------------+--------+-----+
| Gid | Name   | Description                                 | Price  | Sid |
+-----+--------+--------------------------------------------+--------+-----+
|   6 | Ajanta | 27 Carot gold with pure embedded diamond   | 350000 |   5 |
+-----+--------+--------------------------------------------+--------+-----+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.03 sec)

mysql> delimiter ;
mysql> select * from  Products ;
+-----+----------------+-----------------------------------------------------------------+--------+-----+
| Gid | Name           | Description                                                      | Price  | Sid |
+-----+----------------+-----------------------------------------------------------------+--------+-----+
|   1 | Iphone 38      | A cellphone with 48MP camera and the latest features            |  20000 |   6 |
|   2 | Lenovo s800    | Worlds sleekest designed laptop to power your life              |  90000 |   3 |
|   3 | Saffola Blankets | Makes winters warmer with double layered wool                 |   5000 |   2 |
|   4 | Earybuds       | Earbuds with Hybrid Active Noise Cancellation (up to -35 dB)     |  20000 |   1 |
|   5 | Samsung A7000  | 4K Ultra HD Certified Android Smart tv                          | 100000 |   4 |
|   6 | Ajanta         | 27 Carot gold with pure embedded diamond                        | 350000 |   5 |
|   7 | Earybuds REALME | Earbuds                                                        |   2000 |   1 |
|   8 | Samsung m12    | 4K Ultra HD Certified Android Smart tv 52inches                 | 120000 |   4 |
|   9 | Ajanta 224     | 24 Carot gold with pure embedded diamond                        | 150000 |   4 |
+-----+----------------+-----------------------------------------------------------------+--------+-----+
9 rows in set (0.00 sec)

mysql> select * from  transaction;
+-----+-----+-----+
| Tid | Gid | Cid |
+-----+-----+-----+
|   1 |   1 |   5 |
|   2 |   2 |   3 |
|   3 |   3 |   1 |
|   4 |   4 |   4 |
|   5 |   5 |   6 |
|   6 |   6 |   2 |
|   7 |   6 |   2 |
+-----+-----+-----+
```

5)Tax paid by the company (company pays 18% on total money made)

```
mysql> select a.Price from products a,transaction b where b.Gid=a.Gid;
+--------+
| Price  |
+--------+
|  20000 |
|  90000 |
|   5000 |
|  20000 |
| 100000 |
| 350000 |
| 350000 |
+--------+
7 rows in set (0.00 sec)

mysql> delimiter //
mysql> create procedure tax(out taxes decimal(10,4))
    -> begin
    -> declare tax1 decimal(10,4);
    -> select sum(a.Price) into tax1 from products a,transaction b where b.Gid=a.Gid;
    -> set taxes=0.01*tax1*0.18;
    -> end //
Query OK, 0 rows affected (0.02 sec)

mysql> delimiter ;
mysql> call tax(@nettaxes);
Query OK, 1 row affected (0.00 sec)

mysql> select @nettaxes;
+-----------+
| @nettaxes |
+-----------+
| 1683.0000 |
+-----------+
1 row in set (0.00 sec)

mysql>
```

TRIGGERS:

1)Update employee's project attribute on completion of a project.

```
mysql> create trigger Project_Completion
    -> after update on Projects
    -> for each row
    -> BEGIN
    -> IF NEW.Status='Completed' THEN Update Employees set Pid=null where Pid=NEW.Pid;
    -> END IF;
    -> END//
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> select * from Employees;
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                   | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore    | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune               | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen          | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai       | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |  5 | Female | Central Perk, NY              | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi       | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   9 | Bradd hulfman     |   4 | Male   | Bhagwan Vilas,New-Delhi       | 1986-04-14 | 8787395548 | str1@gmail.com       |  74560 |    2 |
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
8 rows in set (0.00 sec)

mysql> update Projects
    ->
    -> SET Status="Completed" where Pid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Employees;
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
| Eid | Name              | Did | Gender | Address                   | Dob        | Contact    | Email                | Salary | Pid  |
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore    | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune               | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen          | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 | NULL |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai       | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |  5 | Female | Central Perk, NY              | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 | NULL |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi       | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   9 | Bradd hulfman     |   4 | Male   | Bhagwan Vilas,New-Delhi       | 1986-04-14 | 8787395548 | str1@gmail.com       |  74560 |    2 |
+-----+-------------------+-----+--------+---------------------------+------------+------------+----------------------+--------+------+
8 rows in set (0.00 sec)
```

2) department's strength when new employee is added

```
mysql> delimiter //
mysql> create trigger strength
    -> after insert on Employees
    -> for each row
    -> BEGIN
    -> update Departments set Strength=Strength+1 where Did=NEW.Did;
    -> END; //
Query OK, 0 rows affected (0.02 sec)

mysql> delimiter ;
mysql>
```

```
mysql> select * from Departments;
+-----+------------------+---------------+---------------------------------------------------------+----------+
| Did | Name             | Head          | Description                                             | Strength |
+-----+------------------+---------------+---------------------------------------------------------+----------+
|   1 | HR               | Hemanth       | Finding, screening, recruiting, and training job applicants. |    1 |
|   2 | Application      | Jeff Bezos    | Handling and adding new features to the website and App. |    1 |
|   3 | AI               | Mark Henry    | Developing and improving the AI facilites.              |    1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                              |    2 |
|   5 | Customer Support | Chandler Bing | To solve the issues of customers and analyse their feedback. |    2 |
+-----+------------------+---------------+---------------------------------------------------------+----------+
5 rows in set (0.00 sec)

mysql> select * from Employees;
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
| Eid | Name            | Did | Gender | Address                    | Dob        | Contact   | Email                | Salary | Pid  |
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
|   1 | Hemanth         |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani  |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos      |   2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing   |   5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry      |   3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |   5 | Female | Central Perk, NY        | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay   |   4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
7 rows in set (0.00 sec)

mysql> insert into Employees values(8,"George Bentley",2,"Male","Global Village,Ahmedabad",DATE '1955-12-17',"9989098790","Bent@gmail.com",80000,2);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from Employees;
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
| Eid | Name            | Did | Gender | Address                    | Dob        | Contact   | Email                | Salary | Pid  |
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
|   1 | Hemanth         |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com    | 280000 | NULL |
|   2 | Joey Tribbiani  |   4 | Male   | Gate 4 Jalahalli,Bangalore | 1973-11-19 | 9787666643 | howyoudoin@gmail.com | 500000 |    3 |
|   3 | Jeff Bezos      |   2 | Male   | Agni Homes,Pune            | 1969-10-10 | 7788993322 | iamjeff@gmail.com    | 990000 | NULL |
|   4 | Chandler Bing   |   5 | Male   | 16 Yemen Road, Yemen       | 1981-01-01 | 8339447901 | ilmonica@geller.com  | 700000 |    1 |
|   5 | Mark Henry      |   3 | Male   | Mariana meadows,Chennai    | 1976-02-02 | 9898776077 | mark@henry.com       | 666000 | NULL |
|   6 | Monica Geller Bing |   5 | Female | Central Perk, NY        | 1983-03-03 | 7688994455 | ilchandler@bing.com  | 100000 |    1 |
|   7 | Pheobe Buffay   |   4 | Female | Bhagwan Vilas,New-Delhi    | 1984-04-04 | 8787665548 | smellycat@gmail.com  |  77000 |    2 |
|   8 | George Bentley  |   2 | Male   | Global Village,Ahmedabad   | 1955-12-17 | 9989098790 | Bent@gmail.com       |  80000 |    2 |
+-----+-----------------+-----+--------+----------------------------+------------+-----------+----------------------+--------+------+
8 rows in set (0.00 sec)

mysql> select * from Departments;
+-----+------------------+---------------+---------------------------------------------------------+----------+
| Did | Name             | Head          | Description                                             | Strength |
+-----+------------------+---------------+---------------------------------------------------------+----------+
|   1 | HR               | Hemanth       | Finding, screening, recruiting, and training job applicants. |    1 |
|   2 | Application      | Jeff Bezos    | Handling and adding new features to the website and App. |    2 |
|   3 | AI               | Mark Henry    | Developing and improving the AI facilites.              |    1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                              |    2 |
|   5 | Customer Support | Chandler Bing | To solve the issues of customers and analyse their feedback. |    2 |
+-----+------------------+---------------+---------------------------------------------------------+----------+
5 rows in set (0.00 sec)
```

```
mysql> select * from Employees;
+-----+-------------------+-----+--------+-----------------------------+------------+------------+------------------------+--------+------+
| Eid | Name              | Did | Gender | Address                     | Dob        | Contact    | Email                  | Salary | Pid  |
+-----+-------------------+-----+--------+-----------------------------+------------+------------+------------------------+--------+------+
|   1 | Hemanth           |   1 | Male   | House 8 Bilekahalli,Mangalore | 1971-12-22 | 9567701011 | hemanth@gmail.com      | 280000 | NULL |
|   2 | Joey Tribbiani    |   4 | Male   | Gate 4 Jalahalli,Bangalore  | 1973-11-19 | 9787666643 | howyoudoin@gmail.com   | 500000 |    3 |
|   3 | Jeff Bezos        |   2 | Male   | Agni Homes,Pune             | 1969-10-10 | 7788993322 | iamjeff@gmail.com      | 990000 | NULL |
|   4 | Chandler Bing     |   5 | Male   | 16 Yemen Road, Yemen        | 1981-01-01 | 8339447901 | ilmonica@geller.com    | 700000 |    1 |
|   5 | Mark Henry        |   3 | Male   | Mariana meadows,Chennai     | 1976-02-02 | 9898776077 | mark@henry.com         | 666000 | NULL |
|   6 | Monica Geller Bing |  5 | Female | Central Perk, NY            | 1983-03-03 | 7688994455 | ilchandler@bing.com    | 100000 |    1 |
|   7 | Pheobe Buffay     |   4 | Female | Bhagwan Vilas,New-Delhi     | 1984-04-04 | 8787665548 | smellycat@gmail.com    |  77000 |    2 |
|   8 | George Bentley    |   2 | Male   | Global Village,Ahmedabad    | 1955-12-17 | 9989098790 | Bent@gmail.com         |  80000 |    2 |
+-----+-------------------+-----+--------+-----------------------------+------------+------------+------------------------+--------+------+
8 rows in set (0.00 sec)

mysql> select * from Departments;
+-----+------------------+----------------+------------------------------------------------------------+----------+
| Did | Name             | Head           | Description                                                | Strength |
+-----+------------------+----------------+------------------------------------------------------------+----------+
|   1 | HR               | Hemanth        | Finding, screening, recruiting, and training job applicants. |        1 |
|   2 | Application      | Jeff Bezos     | Handling and adding new features to the website and App.   |        2 |
|   3 | AI               | Mark Henry     | Developing and improving the AI facilites.                 |        1 |
|   4 | Marketing        | Joey Tribbiani | Marketing of the product.                                  |        2 |
|   5 | Customer Support | Chandler Bing  | To solve the issues of customers and analyse their feedback. |       2 |
+-----+------------------+----------------+------------------------------------------------------------+----------+
5 rows in set (0.00 sec)
```

3)Keeping old data of customers in archives table

```
mysql>
mysql> CREATE TABLE archives (
    -> id int(11) NOT NULL AUTO_INCREMENT,
    -> Name varchar(50) NOT NULL,
    -> Address varchar(50) NOT NULL,
    -> Contact varchar(50) NOT NULL,
    -> Email varchar(50) NOT NULL,
    -> changedon datetime DEFAULT NULL,
    -> action varchar(50) DEFAULT NULL,
    -> PRIMARY KEY (id)
    -> );
Query OK, 0 rows affected, 1 warning (0.07 sec)

mysql> DELIMITER //
mysql> CREATE TRIGGER before_employee_update
    -> BEFORE UPDATE
    -> ON customers
    -> FOR EACH ROW
    -> BEGIN
    -> INSERT INTO archives
    -> SET action = 'update',
    -> Email = OLD.Email,
    -> Name = OLD.Name,
    -> Address=OLD.Address,
    -> Contact=OLD.Contact,
    -> changedon = NOW();
    -> END//
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> DELIMITER ;
mysql> select * from customers;
+-----+---------+-----------------------------+------------+-------------------+
| Cid | Name    | Address                     | Contact    | Email             |
+-----+---------+-----------------------------+------------+-------------------+
|   1 | Ramesh  | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com   |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com  |
|   3 | Ronaldo | Sweet Homes,Hyderabad       | 9341010211 | Ronaldo@gmail.com |
|   4 | Graham  | Bhagwan Vilas,New-Delhi     | 9900105609 | Graham@gmail.com  |
|   5 | Bradman | Villa 8 Juhu,Mumbai         | 8900145011 | Bradman@gmail.com |
|   6 | Nathan  | Bhagwati colony,Mumbai      | 8900145011 | Nathan@gmail.com  |
|   7 | Vrinda  | Mariana meadows,Chennai     | 8900145011 | Vrinda@gmail.com  |
+-----+---------+-----------------------------+------------+-------------------+
7 rows in set (0.00 sec)

mysql> update customers set Name='Virat' where Cid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from customers;
+-----+---------+-----------------------------+------------+-------------------+
| Cid | Name    | Address                     | Contact    | Email             |
+-----+---------+-----------------------------+------------+-------------------+
|   1 | Virat   | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com   |
|   2 | Rohit   | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com  |
|   3 | Ronaldo | Sweet Homes,Hyderabad       | 9341010211 | Ronaldo@gmail.com |
|   4 | Graham  | Bhagwan Vilas,New-Delhi     | 9900105609 | Graham@gmail.com  |
|   5 | Bradman | Villa 8 Juhu,Mumbai         | 8900145011 | Bradman@gmail.com |
|   6 | Nathan  | Bhagwati colony,Mumbai      | 8900145011 | Nathan@gmail.com  |
|   7 | Vrinda  | Mariana meadows,Chennai     | 8900145011 | Vrinda@gmail.com  |
+-----+---------+-----------------------------+------------+-------------------+
7 rows in set (0.00 sec)

mysql> select * from archives;
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
| id | Name   | Address                     | Contact    | Email           | changedon           | action |
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
|  1 | Ramesh | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com | 2021-04-07 01:01:25 | update |
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
1 row in set (0.00 sec)
```

```
mysql> update customers set Name='Rohit Sharma' where Cid=2;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from archives;
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
| id | Name   | Address                     | Contact    | Email           | changedon           | action |
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
|  1 | Ramesh | Gate 4 Jalahalli,Bangalore  | 9900101011 | Virat@gmail.com | 2021-04-07 01:01:25 | update |
|  2 | Rohit  | House 8 Bilekahalli,Mangalore | 9567701011 | Rohit@gmail.com | 2021-04-07 01:02:55 | update |
+----+--------+-----------------------------+------------+-----------------+---------------------+--------+
2 rows in set (0.00 sec)
```

SUBMITTED BY:
TEAM-9

RISHIT-191IT141
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YASH-191IT158