HOTEL DATABASE MANAGEMENT SYSTEM

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What is Data Management?

Data management is the policy and practice of treating data as a valuable resource. Its goal is turning information into meaningful insights that enable expense and operation optimization, cost cutting with a resulting increase in profits.

Advantages of DBMS in Hospitality Industry

The hospitality industry produces a plethora of data literally every moment.

In the hospitality industry, harnessing the power of data helps decision-makers to solve the challenging domain-specific tasks including:

- Improving occupancy forecasting,
- Setting competitive room prices,
- Choosing the most profitable distribution channels,
- Optimizing procurement operations,

SRS

PURPOSE

This data management project approaches and attempts to implement technologies utilized in the hospitality industry to boost revenue and enhance customer experience.

OBJECTIVE

The database management system will be managing the following areas:

- The hotel and its details.
- Information about the staff(kitchen, room service, valets etc).
- Information about guests.
- Booking Information and Agent used

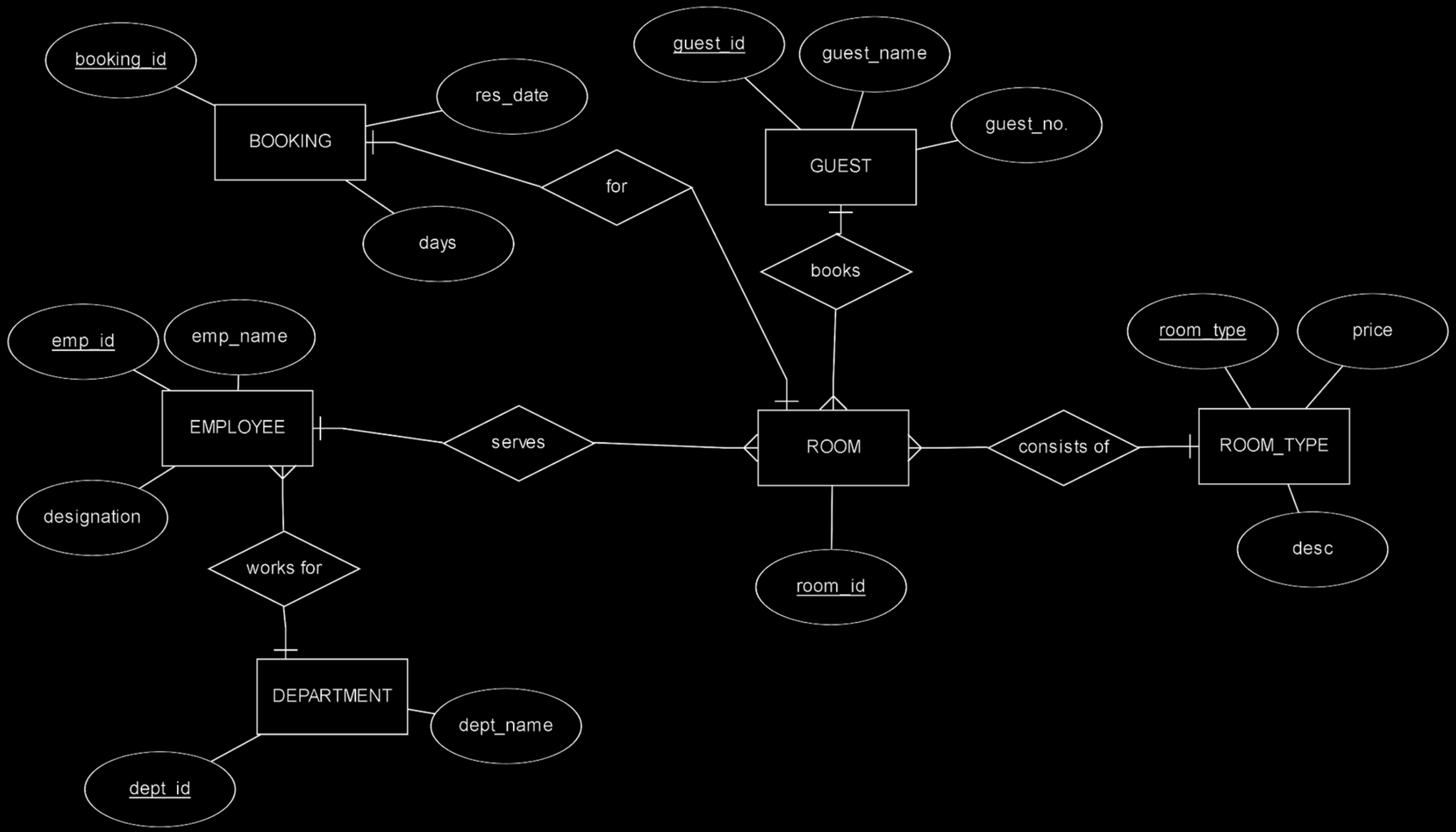
SOFTWARE REQUIREMENT

- Oracle SQL

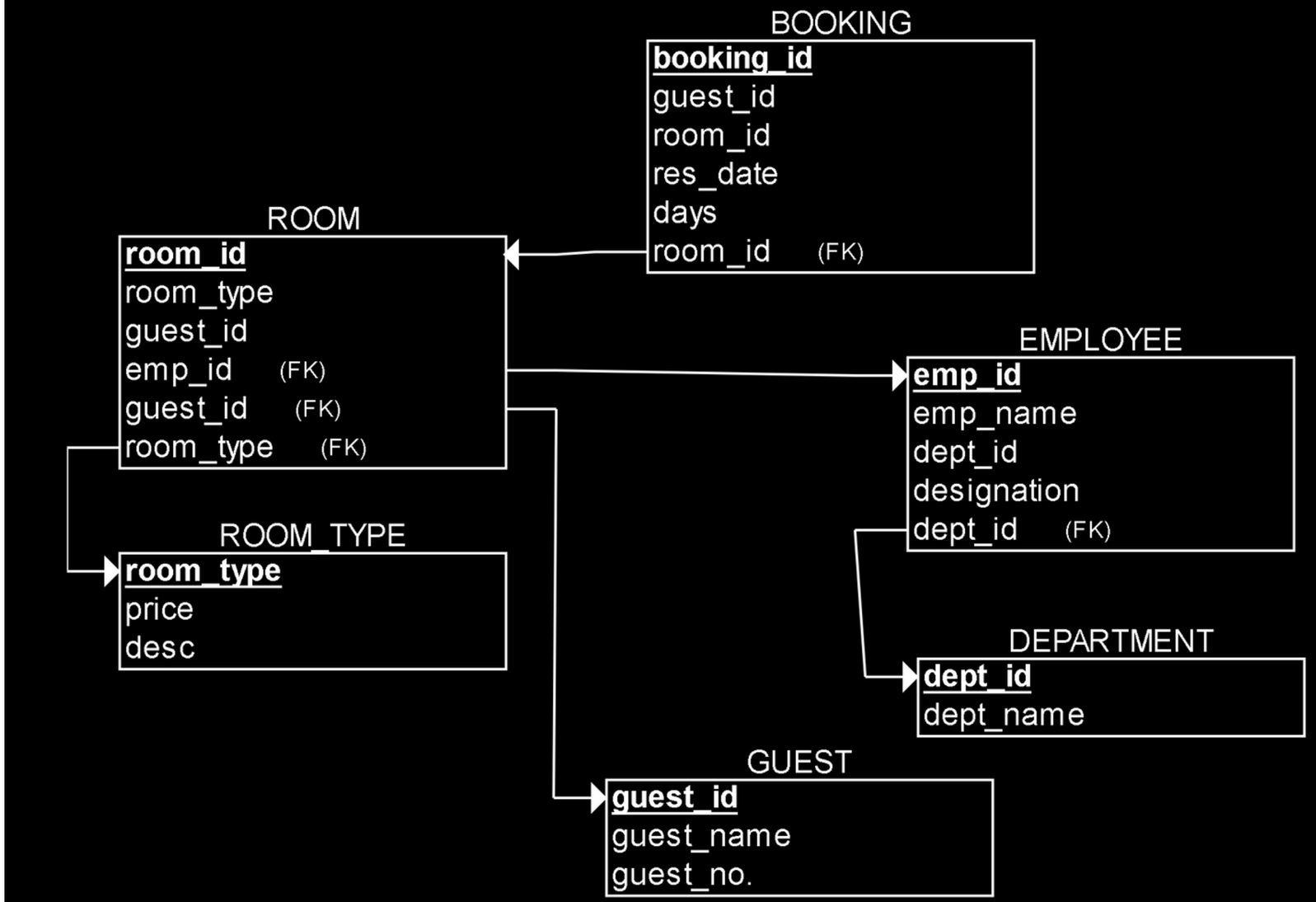
HARDWARE REQUIREMENT

- 2GB ram
- 1.2 GHz processor
- Intel i5
- Windows 7/8/8.1/10

ER DIAGRAM


booking_id
res_date
BOOKING
days
for
guest_id
guest_name
guest_no.
GUEST
books
emp_id
emp_name
EMPLOYEE
designation
works for
DEPARTMENT
dept_name
dept_id
serves
ROOM
room_id
consists of
room_type
price
ROOM_TYPE
desc

MAPPING OF ER DIAGRAM TO SCHEMA



DATABASE IMPLEMENTATION

1. Room Type

Room_type-this table consists of attributes

- room type- determines each type of room uniquely
- price- contains price of each room
- descr-contains description of each room type

```
ROOM_TYPE       PRICE DESCR
---------- ---------- --------------------
         1       3000 2 BED AC
         2       1500 2 BED NONAC
         3       2000 1 BED AC
```

```
SQL> desc room_type;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 ROOM_TYPE                                 NOT NULL NUMBER(38)
 PRICE                                     NOT NULL NUMBER(38)
 DESCR                                     NOT NULL VARCHAR2(20)
```

2. GUEST

Guest- contains information about all the guests currently staying at the hotel

1. guest_id-uniquely identifies each guest staying at the hotel
2. guest_name-contains name of each guest staying at the hotel
3. guest_no-conatins contact information of every guest

```
SQL> desc guest;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 GUEST_ID                                  NOT NULL NUMBER(38)
 GUEST_NAME                                NOT NULL VARCHAR2(20)
 GUEST_NO                                  NOT NULL NUMBER(38)
```

GUEST_ID	GUEST_NAME	GUEST_NO
202	Luke Abrams	8332849183
203	John Brown	9008274820
204	Rose Black	7000131343
205	Liam Ray	7829104829
206	Joy Zeb	7000287391

3. DEPARTMENT

Department- lists every department present in the hotel

1. dept_id-uniquely identifies each each department
2. dept_name-contains name of each department in the hotel

```
SQL> desc department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 DEPT_ID                                   NOT NULL NUMBER(38)
 DEPT_NAME                                 NOT NULL VARCHAR2(20)
```

```
SQL> select * from department;

   DEPT_ID DEPT_NAME
---------- --------------------
       100 cleaning
       101 food
       102 Security
       103 maintanance
```

4. EMPLOYEE

Employee- contains information about all the employees currently working at the hotel

1. emp_id- uniquely identifies each each employee
2. emp_name- contains name of each employee
3. designation- contains designation of each employee
4. dept_id- uniquely identifies department of each employee they are working in

```
SQL> desc employee
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
 EMP_ID                                    NOT NULL NUMBER(38)
 EMP_NAME                                  NOT NULL VARCHAR2(20)
 DESIGNATION                               NOT NULL VARCHAR2(15)
 DEPT_ID                                   NOT NULL NUMBER(38)
```

```
SQL> select * from employee;

    EMP_ID EMP_NAME             DESIGNATION        DEPT_ID
---------- -------------------- -------------- ----------
       701 Blake                Head Chef             101
       702 Rose                 Receptionist          102
       703 Riri                 Plumber               103
       704 Kygo                 Janitor               100
       705 Danny                Doorkeeper            102
       706 Sasha                Room Service          101
       707 Avi                  Night Gaurd           102
       708 Aaron                Electrician           103
       709 Fade                 Room Service          101
       710 Ron                  Chef                  101
```

5. ROOM

Room- contains information about all the rooms present in the hotel

1. room_id- uniquely identifies each room in hotel
2. guest_id- identifies which guest is currently staying in the room
3. room_type- identifies each room's type

```
SQL> desc room;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 ROOM_ID                                   NOT NULL NUMBER(38)
 GUEST_ID                                  NOT NULL NUMBER(38)
 ROOM_TYPE                                 NOT NULL NUMBER(38)
```

```
SQL> select * from room;

   ROOM_ID   GUEST_ID  ROOM_TYPE
---------- ---------- ----------
       302        202          1
       303        203          2
       304        204          1
       305        205          3
       306        206          2
```

6. BOOKING

Booking- contains information about all the bookings.

1. booking_id- uniquely identifies each booking in the hotel
2. guest_id- identifies which guest is responsible for the booking
3. room_id- identifies the room allotted to the booking
4. res_date- contains the booking's reservation date
5. days- contains the number of days the stay will last

```
SQL> desc booking
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 BOOKING_ID                                NOT NULL NUMBER(38)
 GUEST_ID                                  NOT NULL NUMBER(38)
 ROOM_ID                                   NOT NULL NUMBER(38)
 RES_DATE                                  NOT NULL DATE
 DAYS                                      NOT NULL NUMBER(38)
```

```
SQL> select * from booking;

BOOKING_ID   GUEST_ID    ROOM_ID RES_DATE        DAYS
---------- ---------- ---------- --------- ----------
        12        202        302 26-NOV-10         10
        13        203        303 19-JUL-21          5
        14        204        304 20-JAN-20          3
        15        205        305 11-SEP-21          7
        16        206        306 29-MAY-17          2
```

QUERIES

1 .Show the number of employees in each department.

```
select dep_id, count(emp_id)
from employee group by dept_id;
```

```
SQL> connect rashmika
Enter password:
Connected.
SQL> select dept_id, count(emp_id) from employee group by dept_id;

   DEPT_ID COUNT(EMP_ID)
---------- ------------
       100            1
       102            3
       101            4
       103            2
```

2. Aaron the electrician has caused a short circuit in all room type
3. so write a query to fetch the phone number of guests staying in room 3 so you can inform them that their rooms will be changed

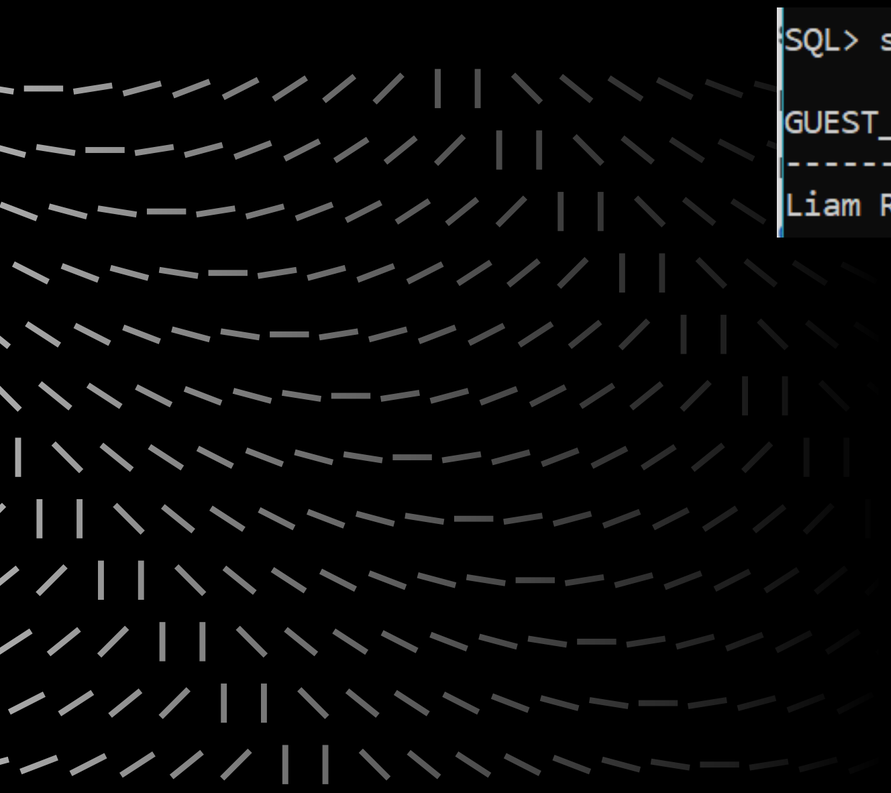
Select guest_no from guest where guest_id IN (Select guest_id
from room where room_type = ‘3’)

```
SQL> select guest_no from guest where
  2  guest_id in (select guest_id from room where room_type='3');

  GUEST_NO
----------
7829104829
```

3. Find the name of the guest whose booking I'd is 15

```
select guest_name from guest where guest_id =
(Select guest_id from booking where booking_id
= ‘15’);
```



```
SQL> select guest_name from guest where guest_id = (Select guest_id from booking where booking_

GUEST_NAME
--------------------
Liam Ray
```

4. Find the guests details who have booked for more than 5 days.

```
select * from guest where guest_id in(Select guest_id from booking where (days>’5’));
```

```
SQL> select * from guest where guest_id in(Select guest_id from booking where (days>'5'

  GUEST_ID GUEST_NAME                    GUEST_NO
---------- -------------------- ----------
       202 Luke Abrams          8332849183
       205 Liam Ray             7829104829
```

5. Find the department name of the employee whose I'd is 705.

Select dept_name from Department where dept_id = (Select dept_id from employee where emp_id = ‘705’);

```
SQL> Select  dept_name from Department where dept_id = (Select dept_id from employee where emp_id = '705');

DEPT_NAME
--------------------
Security
```

6. Find the details of the employees who are working in food and cleaning department.

```
select * from employee where dept_id in(select dept_id from department where dept_name=’food’ or dept_name=’cleaning’);
```

```
SQL> select * from employee where dept_id in(select dept_id from department where dept_name='food' or dept_name='cleanin
g');

    EMP_ID EMP_NAME            DESIGNATION       DEPT_ID
---------- ------------------- -------------- ----------
       701 Blake               Head Chef             101
       704 Kygo                Janitor               100
       706 Sasha               Room Service          101
       709 Fade                Room Service          101
       710 Ron                 Chef                  101
```

7. Show the registration date and Name of all the guests

select t2.GUEST_NAME, t1.res_date from booking t1 inner join guest t2 on t1.guest_id=t2.guest_id;

```
SQL> select t2.guest_name, t1.res_date
  2  from booking t1 inner join guest t2 on
  3  t1.guest_id=t2.guest_id;

GUEST_NAME           RES_DATE
-------------------- ---------
Luke Abrams          26-NOV-10
John Brown           19-JUL-21
Rose Black           20-JAN-20
Liam Ray             11-SEP-21
Joy Zeb              29-MAY-17
```

8. Show the number of rooms of a particular type in use.

Select room_type, count(room_id) from room group by room_type;

```
SQL> Select room_type, count(room_id) from room group by room_type

 ROOM_TYPE COUNT(ROOM_ID)
---------- --------------
         1              2
         2              2
         3              1

SQL>
```

9. Find all the employees present in the maintenance department

select t2.GUEST_NAME, t1.res_date from booking t1 inner join guest t2 on t1.guest_idSelect * from employee where dept_id IN(Select dept_id from department where dept_name=’maintenance’);=t2.guest_id;

```
SQL> Select * from employee
  2  where dept_id = (select dept_id from department where dept_name='maintanance');

    EMP_ID EMP_NAME             DESIGNATION        DEPT_ID
---------- -------------------- -------------- ----------
       703 Riri                 Plumber               103
       708 Aaron                Electrician           103
```

10. AARON the electrician has been fired so write a query to remove his details from the table

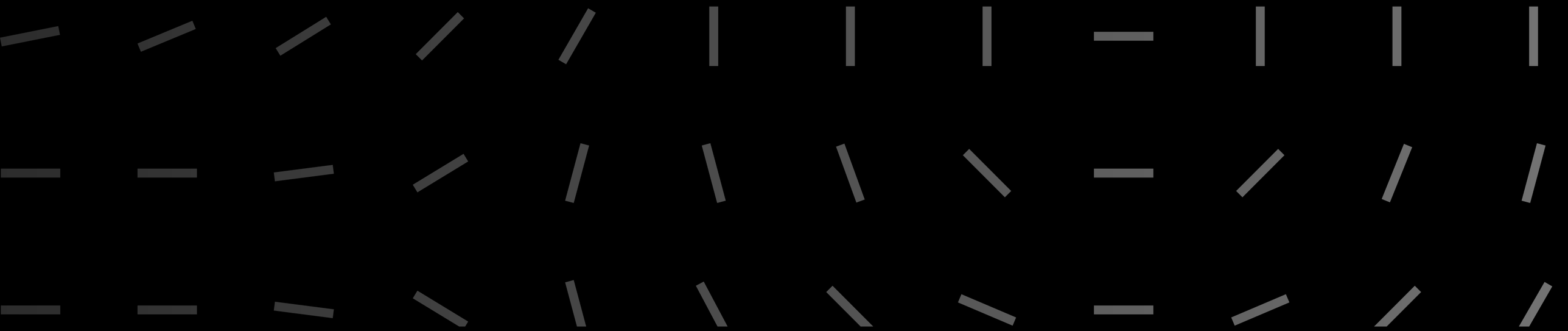
delete * from employee where emp_name=’Aaron’ AND designation=’electrician’;

```
SQL> delete from employee where emp_name='Aaron' AND designation='Electrician';

1 row deleted.
```

CONCLUSION

Our project is only a humble venture to satisfy the needs of the hospitality industry. Several user friendly coding has also been adopted. This package shall prove to be powerful in satisfying all the requirements of the Hotel.



THANK YOU !