ARAB AMERICAN UNIVERSITY OF PALESTINE

A HOTEL DATABASE



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**THE DESCRIBTION:-**

**From fantastic amenities to excellent service, the luxury hotels are more than just a place to rest your head. You can expect modern conveniences combined with comfortable guestrooms when BOOKING IN OUR HOTEL.**

**The best hotel is the hotel which consists of several rooms, suites, restaurant and others.**

**To make sure that you have a comfortable time in our hotel we will record the information of every guest to complete our registration process, Then we will show them information about our hotel such as type of rooms which is rooms single, double, and quad and its position , the price of the room depend on the type of room and the days he will stay .The payment method either cash or by card .**

**In this hotel works many employees, and every worker has it SSN , hire- date , first\_ name, last\_ name ,and job\_id. Employees are classified into a part time employee and each of them has a salary and work hour ,and full time employee and each of them has a salary and experiences years. These employees must belong to one department. Employees are also classified to managers, restaurant\_employees, room\_service\_employees, and receptionist. Each rest\_emp has role\_type , service\_employee has rating , managers has team, and receptionist has access\_type.**

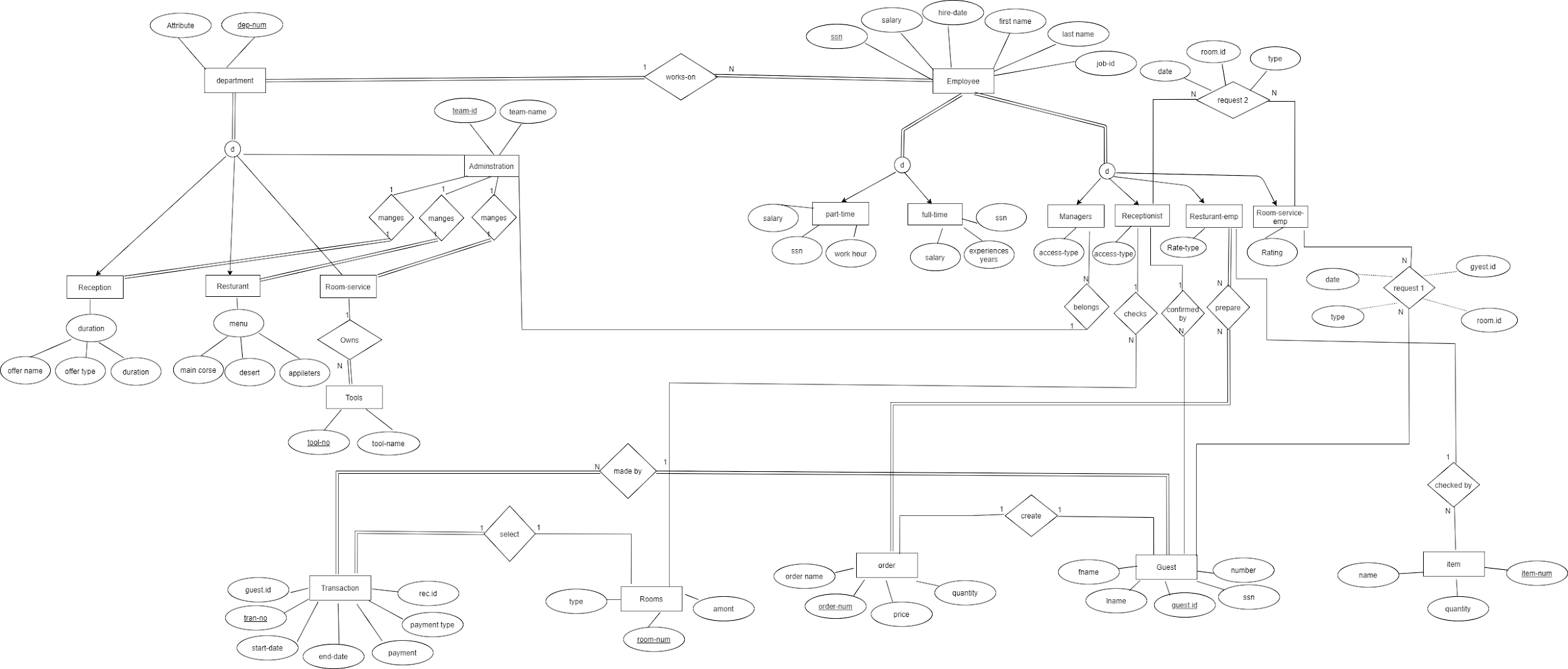
**Our departments can be classified reception, restaurant, room service, and adminstration department . Each department must have a department\_ num and department\_name.**

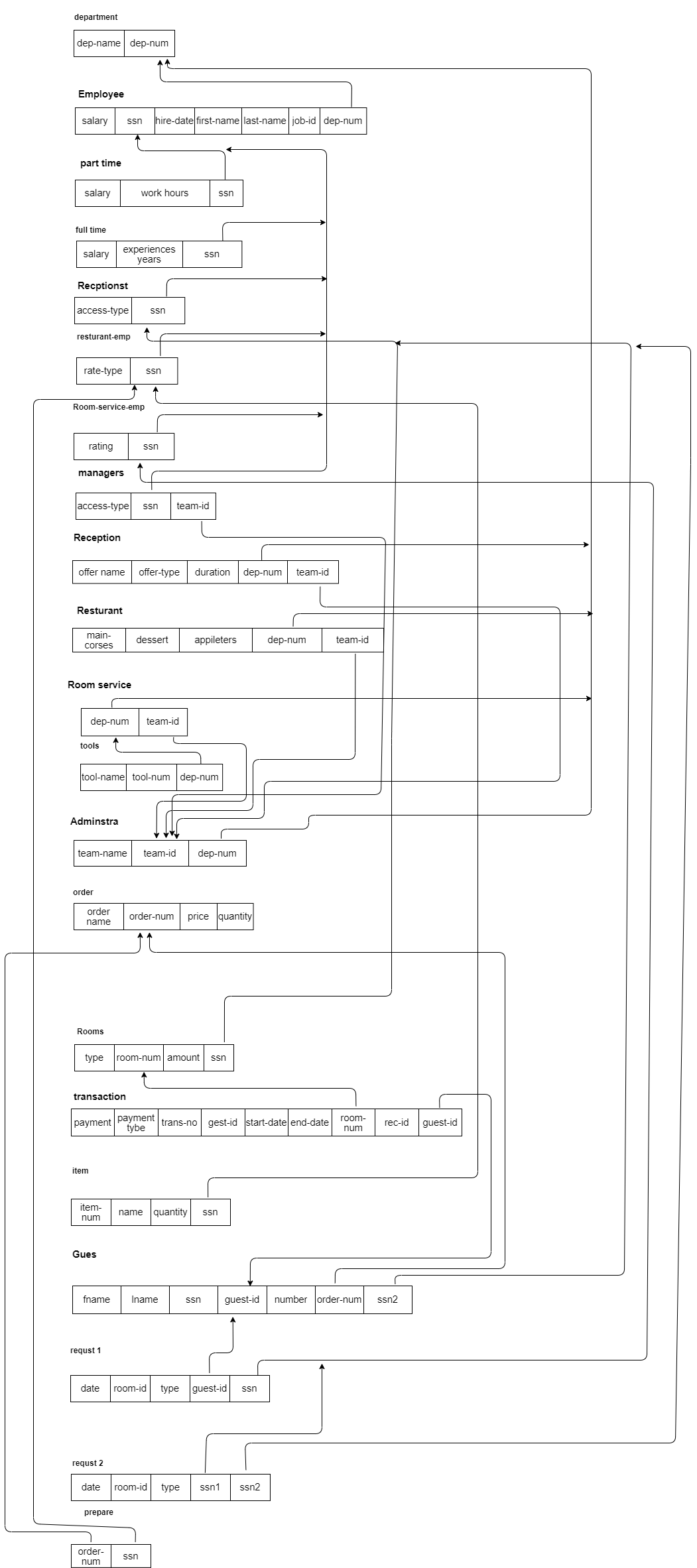
**Reception department has hotel\_offers that contain offer\_name , offer\_type, duration. Reception department require recorded information about rooms, transaction, guest and receptionist. Each room has room\_id, room\_type, room\_code, and amount. Each transaction has trans\_no, guest\_id, start\_date, end\_date, total\_payment, payment\_type, rec\_id, and room\_id. Each guest has guest\_id, first\_name, last\_name, ssn, and number.**

**Restaurant department require recorded information about order, item. Each order has order\_num, order\_name, price and quantity. Each item has item\_no, item\_name, quantity.**

**Room services department will receive request\_from\_customer, request\_from\_reception, tools. Each request\_from\_customer must request\_type, cust\_id, room\_id, date\_of\_request .Each request\_from\_reception must contain room\_id, cust\_id, request\_type, date\_of\_request. Each tools has name, tool\_num, and quantity.**

**Adminstration department has managers with that are related to certain teams. Each team will be responsible on a department and has team\_id , team\_name, .**

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**Our ER-Diagram answered for these Questions:**

* **what is the name and id for the guest who has the maximum order in our hotel ?**

**select fname, lname ,guest\_id**

**from guest join order1 using(order\_num)**

**where quantity = (select max(quantity) from order1);**

* **what is the name of the manger in team id 4 their name starts with letter entered by user ?**

**select first\_name,last\_name**

**from department d join adminstration a on (d.dnumber = a.department\_num)**

**join Employees e on (e.department\_num = d.dnumber)**

**where team\_id = 4 and first\_name like '&name';**

* **what is the department name and number for the employee his hire\_date entered by user ?**

**select dnumber , dname**

**from department d join Employees a on (d.dnumber = a.department\_num)**

**where hire\_date like '&date';**

* **which room the guest prefers for each type ?**

**select max(amount),max(room\_num) as "room\_num",type**

**from rooms**

**group by type;**

* **the names of Staff that there salary equal the minimum salary ?**

**select first\_name,last\_name,salary**

**from Staff**

**where salary = (**

**select min(salary)**

**from Staff);**

* **the highest salary in each department?**

**select max(salary), dname**

**from Employees e join department d on (e.department\_num = d.dnumber)**

**group by dname;**

* **what is the team id that manages restaurant ?**

**select team\_id**

**from adminstration a join department d on ( d.dnumber = a.department\_num)**

**where dname = 'restaurant';**

* **the most order that was ordered in restaurant?**

**select order\_name**

**from order1**

**where quantity = (select max(quantity) from order1);**

* **how many part time employee the hotel have?**

**select count(distinct (ssn))**

**from part\_time;**

* **The most expensive room in the hotel ?**

**Select room\_num**

**From rooms join transactions using(room\_num)**

**Where payment = ( select max(payment) from transactions);**

* **HOW MANY ROOM WAS RENTED IN MARCH?**

**select count(room\_num)**

**from transactions**

**where start\_date like '%MAR%';**

* **What the number of rooms that was rented between 12-3-2019 and 1-12-2021 ?**

**select room\_num**

**from rooms join transactions using(room\_num)**

**where start\_date between '12-mar-2019' and '1-dec-2021' ;**

* **WHICH employee HAS THE HIGHEST SALARY IN room service department ?**
* **THE SUM OF PAID RENT in year 2019?**

**select sum(payment)**

**from transactions**

**where start\_date like '%19';**

* **What is the average of the benefits in year 2020?**

**select avg(payment)**

**from transactions**

**where start\_date like '%20';**

* **THE MOST EXPERIENCED EMPLOYEE WE HAVE?**

**select first\_name,last\_name**

**from full\_time join Employees using(ssn)**

**where experiences\_years = ( select max(experiences\_years) from full\_time);**

* **the name of employee start with the letter a?**

**select first\_name,last\_name**

**from Employees**

**where first\_name like 'a%';**

**creat table:-**

**SQL> create table employeess(First\_Name varchar(15) not null,**

**Last\_name varchar(15),**

**Department\_ID int not null,**

**SSN char(9),**

**Date\_Hire date,**

**primary key (SSN),mang\_id int );**

**SQL> create table PartTime (SSN char(9),**

**work\_hour int ,**

**salary decimal(10,2),**

**primary key (SSN));**

**SQL> create table FullTime (SSN char(9),**

**salary decimal(10,2),**

**experiences varchar(20),**

**primary key (SSN));**

**SQL> create table Department (Department\_id int ,**

**min\_salary decimal(10,2),**

**manager\_id int ,**

**attribute varchar(15),**

**primary key (Department\_id));**

**SQL> create table garden (max\_salary decimal(10,2),**

**Departm\_id int );**

**SQL> alter table garden add check( departm\_id=4);**

**SQL> Alter table garden add (constraint departm\_id\_const foreign key(departm\_id) references department(department\_id));**

**SQL> create table RoomService (max\_salary decimal(10,2),**

**hour\_of\_service int,**

**Depar\_id int);**

**SQL>alter table roomservice add check( depar\_id=1);**

**SQL> Alter table roomservice add (constraint depar\_id\_const foreign key(depar\_id) references department(department\_id));**

**SQL> create table Restaurant (max\_salary decimal(10,2),**

**desert varchar(20),**

**appetizers varchar(20),**

**main\_course varchar(20),**

**Department\_id int);**

**SQL> alter table restaurant add check( department\_id=1);**

**SQL> Alter table restaurant add (constraint department\_id\_const foreign key(department\_id) references department(department\_id));**

**SQL> create table other (max\_salary decimal(10,2),**

**Dep\_id int ,**

**type varchar(20));**

**SQL> alter table other add check( dep\_id=2);**

**SQL> Alter table other add (constraint dep\_id\_const foreign key(dep\_id) references department(department\_id));**

**SQL> create table gym (max\_salary decimal(10,2),**

**D\_id int ,**

**sign\_in\_date date);**

**SQL> alter table gym add check( d\_id=5);**

**SQL> Alter table gym add (constraint d\_id\_const foreign key(d\_id) references department(department\_id));**

**SQL> create table card(card\_num char(9),**

**card\_place varchar(30),t**

**ype varchar(20),**

**primary key(card\_num));**

**SQL>create table guest (guest\_number char(500),first\_name varchar(50),l**

**ast\_name varchar(50),birth\_place varchar(20),**

**religion varchar(20),card\_num char(9),nationality varchar(30),**

**primary key(guest\_number);**

**SQL>Alter table guest add (constraint card\_num\_const foreign key(card\_num) references card(card\_num));**

**SQL>create table rommates (num char(500),guest\_number char(500),**

**name varchar(30),releationship varchar(30),**

**general\_information varchAR(30),birth\_date date,**

**nationality varchar(30),primary key(num));**

**SQL>Alter table roommates add (constraint guest\_number\_const foreign key(guest\_number) references guest(guest\_number));**

**SQL> create table room(room\_number char(500),**

**rent\_price\_monthly number ,room\_position varchar(30),**

**rent\_price number,rent\_type varchar(20)not null,**

**room\_type varchar(20),primary key(room\_number));**

**SQL> create table registration (num char(500),guest\_num char(500),**

**room\_number char(50),amount char(365),**

**come\_date date,leave\_date date,**

**status varchar(10),primary key(num),**

**foreign key(room\_number,come\_date );**

**SQL> alter table registration add check( status=1 or status=0);**

**SQL> Alter table registration add (constraint guest\_num\_const foreign key(guest\_num) references guest(guest\_number));**

**SQL> Alter table registration add (constraint room\_number\_const foreign key(room\_number) references room(room\_number));**

**create table Employees**

**(first\_name varchar(10),**

**last\_name varchar(10),**

**ssn char (9) ,**

**hire\_date date,**

**job\_id varchar(20) ,**

**salary int,**

**department\_num char(10),**

**primary key(ssn));**

**create table department**

**(department\_name varchar(20),**

**department\_num char(10),**

**primary key (department\_num));**

**create table part\_time (**

**salary int,**

**work\_hour int check(work\_hour<7 and work\_hour>0),**

**ssn char(9));**

**create table full\_time**

**(salary int,**

**experiences\_years int,**

**ssn char(9));**

**create table receptionist**

**(access\_type varchar(20),**

**ssn char(9),**

**primary key (ssn));**

**create table resturant\_emp**

**(rate\_type int check(rate\_type<6),**

**ssn char(9),**

**primary key (ssn));**

**create table room\_service\_emp**

**(rating int check(rating<6),**

**ssn char(9),**

**primary key(ssn));**

**create table manager**

**(access\_type varchar(15),**

**ssn char(9),**

**team\_id int);**

**create table reception**

**(offer\_name varchar(20),**

**offer\_type varchar(15),**

**duration int,**

**department\_num char(10),**

**team\_id int );**

**create table restaurant**

**(main\_course varchar(25),**

**appetizers varchar(20),**

**dessert varchar(20),**

**department\_num char(10),**

**team\_id int);**

**create table room\_service**

**(department\_num char(10),**

**team\_id int,**

**primary key (department\_num));**

**create table tools**

**(tool\_name varchar(20),**

**tool\_num int,**

**department\_num char(10));**

**create table adminstration**

**(team\_name varchar(20),**

**team\_id int,**

**department\_num char(10),**

**primary key (team\_id));**

**create table order1**

**(order\_name varchar(15),**

**order\_num int,**

**price int,**

**quantity int,**

**primary key(order\_num));**

**create table rooms**

**(type varchar(10),**

**room\_num int ,**

**amount int,**

**ssn char(9),**

**primary key (room\_num));**

**create table transactions**

**(payment int,**

**payment\_type varchar(10),**

**trans\_no int,**

**start\_date date,**

**end\_date date,**

**room\_num int,**

**rec\_id int,**

**guest\_id int);**

**create table items**

**(item\_num int,**

**name varchar(15),**

**quantity int,**

**ssn char(9));**

**create table guest**

**(fname varchar(10),**

**lname varchar(10),**

**ssn char(9),**

**guest\_id int,**

**numberG int,**

**order\_num int,**

**ssn2 char(9),**

**primary key (guest\_id));**

**create table request1**

**(dateR1 date,**

**room\_id int,**

**type varchar(20),**

**guest\_id int,**

**ssn char(9));**

**create table request2**

**(dateR2 date,**

**room\_id int,**

**type varchar(20),**

**ssn char(9),**

**ssn2 char(9));**

**create table prepare**

**(order\_num int,**

**ssn char(9));**

**Alter table Employees add (constraint dep1\_const foreign key(department\_num)**

**references department (department\_num) on delete set null);**

**Alter table part\_time add (constraint ssn1\_const foreign key(ssn)**

**references Employees(ssn)on delete set null);**

**Alter table full\_time add constraint ssn2\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table receptionist add constraint ssn3\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table resturant\_emp add constraint ssn4\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table room\_service\_emp add constraint ssn5\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table manager add constraint ssn6\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table manager add constraint team1\_const foreign key(team\_id)**

**references adminstration(team\_id) on delete set null;**

**Alter table reception add constraint Dep2\_const foreign key(department\_num)**

**references department(department\_num) on delete set null;**

**Alter table reception add constraint team2\_const foreign key(team\_id)**

**references adminstration (team\_id) on delete set null;**

**Alter table restaurant add constraint Dep3\_const foreign key(department\_num)**

**references department(department\_num) on delete set null;**

**Alter table restaurant add constraint team3\_const foreign key(team\_id)**

**references adminstration(team\_id) on delete set null;**

**Alter table room\_service add constraint Dep4\_const foreign key(department\_num)**

**references department(department\_num) on delete set null;**

**Alter table room\_service add constraint team4\_const foreign key(team\_id)**

**references adminstration(team\_id) on delete set null;**

**Alter table tools add constraint Dep5\_const foreign key(department\_num)**

**references room\_service(department\_num) on delete set null;**

**Alter table adminstration add constraint Dep6\_const foreign key(department\_num)**

**references department(department\_num) on delete set null;**

**Alter table rooms add constraint ssn7\_const foreign key(ssn)**

**references Employees(ssn) on delete set null;**

**Alter table transactions add constraint room\_const foreign key(room\_num)**

**references rooms(room\_num) on delete set null;**

**Alter table transactions add constraint guest1\_const foreign key(guest\_id)**

**references guest(guest\_id) on delete set null;**

**Alter table items add constraint ssn8\_const foreign key(ssn)**

**references resturant\_emp(ssn) on delete set null;**

**Alter table guest add constraint ssn9\_const foreign key(ssn2)**

**references receptionist (ssn) on delete set null;**

**Alter table guest add constraint order1\_const foreign key(order\_num)**

**references order1 (order\_num) on delete set null;**

**Alter table request1 add constraint guest2\_const foreign key(guest\_id)**

**References guest(guest\_id) on delete set null;**

**Alter table request1 add constraint ssn10\_const foreign key(ssn)**

**References room\_service\_emp(ssn) on delete set null;**

**Alter table request2 add constraint ssn11\_const foreign key(ssn)**

**references room\_service\_emp (ssn) on delete set null;**

**Alter table request2 add constraint ssn12\_const foreign key(ssn2)**

**references receptionist (ssn) on delete set null;**

**Alter table prepare add constraint order2\_const foreign key(order\_num)**

**references order1 (order\_num) on delete set null;**

**Alter table prepare add constraint ssn13\_const foreign key(ssn)**

**references resturant\_emp (ssn) on delete set null;**

**THE INSERTION OF THE DATA:-**

**insert into department values ('reception','1122334455');**

**insert into department values ('restaurant','1122445566');**

**insert into department values ('room\_service','122556677');**

**insert into department values ('adminstration','1122667788');**

**insert into Employees values ('sara','emad','887799664','1-jan-2018', 'rec', 2200,'1122334455');**

**insert into Employees values ('marya','ahmad','778866224','21-apr-2018', 'rec', 2200,'1122334455');**

**insert into Employees values ('noora','mansor','223344882','15-aug-2019', 'res', 2000,'1122445566');**

**insert into Employees values ('alia','noor','776611558','4-jul-2018', 'room', 1500,'1122556677');**

**insert into Employees values ('ahmad','hamad','885544662','16-jul-2018', 'adm', 2500,'1122667788');**

**insert into Employees values ('mahmoud ','aziz','772266554','8-jul-2019', 'res', 1800,'1122445566');**

**insert into Employees values ('ali','belal','996633881','2-jan-2018', 'rec', 1500,'1122334455');**

**insert into Employees values ('noor','alaa','885522771','20-may-2018', 'adm', 2500,'122667788');**

**insert into Employees values ('shahd','ahmad','774411881','3-apr-2019', 'room', 2000,'1122556677');**

**insert into Employees values ('mohamad','izz','225588771','26-mar-2019', 'res', 2200,'1122445566');**

**insert into Employees values ('sami','wael','114477881','25-oct-2020', 'rec', 2200,'1122334455');**

**insert into part\_time values (1500,'5', '776611558');**

**insert into part\_time values (1800,'4', '772266554');**

**insert into part\_time values (2000,'6', '223344882');**

**insert into part\_time values (2000,'6', '774411881');**

**insert into part\_time values (2200,'5', '114477881');**

**insert into full\_time values (2200,'4', '887799664');**

**insert into full\_time values (2200,'5', '778866224');**

**insert into full\_time values (2500,'7', '885544662');**

**insert into full\_time values (2500,'6', '885522771');**

**insert into full\_time values (2200,'4', '225588771');**

**insert into receptionist values ('full access', '114477881');**

**insert into receptionist values ('Part access', '996633881');**

**insert into receptionist values ('Part access', '778866224');**

**insert into receptionist values ('full access', '887799664');**

**insert into tools values ('broom','1', '1122556677');**

**insert into tools values ('bucket','2', '1122556677');**

**insert into tools values ('cleaner','3', '1122556677');**

**insert into manager values ('full','885544662',1);**

**insert into manager values ('part','885522771',1);**

**insert into Room\_service\_emp values (4,'776611558');**

**insert into Room\_service\_emp values (3,'774411881');**

**insert into Resturant\_emp values (3,'225588771');**

**insert into Resturant\_emp values (4,'772266554');**

**insert into Resturant\_emp values (5,'223344882');**

**insert into rooms values ('quad',0033,70,'778866224');**

**insert into rooms values ('single',3300,200,'114477881');**

**insert into rooms values ('single',1002,48,'778866224');**

**insert into rooms values ('double',0001,110,'114477881');**

**insert into rooms values ('single',0020,30,'887799664');**

**insert into order1 values ('pizza',12456,20,3);**

**insert into order1 values ('Cheesecake',12341,9,2);**

**insert into order1 values ('potato',12388,10,3);**

**insert into order1 values ('Chicken burger',34442,25,2);**

**insert into order1 values ('Beef burger',43231,30,3);**

**insert into Room\_service values ('1122556677',3);**

**insert into Room\_service values ('1122556677',3);**

**insert into Room\_service values ('1122556677',3);**

**insert into Room\_service values ('1122556677',3);**

**insert into Room\_service values ('1122556677',3);**

**insert into Room\_service values ('1122556677',3);**

**insert into restaurant values ('pizza','chips','konofa','1122445566',2);**

**insert into restaurant values ('prots','canape', Baklava ,'1122445566',2);**

**insert into restaurant values ('shawarma','salads','fatayer','1122445566',2);**

**insert into restaurant values ('fenttuccino','dips','cake','1122445566',2);**

**insert into restaurant values ('potate','cocktails','choclate','1122445566',2);**

**alter table reception modify ( duration varchar(100));**

**alter table reception modify(OFFER\_NAME varchar(100) );**

**insert into reception values ('summer offers winter offers 3in1 -15day','2in1','15 day','1122334455','1');**

**insert into reception values ('spring shows','2in1','5 day','1122334455','1');**

**insert into reception values ('autumn spring','2in1','5 day','1122334455','1');**

**insert into guest values ('ahmad','zoher', '123456789', '1','0569782032', '12456', '114477881');**

**insert into guest values ('magd','bassam', '112233445', '2','0569782033', '12341', '996633881');**

**insert into guest values ('mohamad','awne', '123123123', '3','0569782034', '12388', '887799664');**

**insert into guest values ('osama','nadi', '111222333', '4','0569782035', '34442', '778866224');**

**insert into guest values ('ehab','abufarha', '222333444', '5','0569782036', '43231', '114477881');**

**insert into items values ('1','bread', '5', '225588771');**

**insert into items values ('2','meat', '10', '772266554');**

**insert into items values ('3','apple', '15', '772266554');**

**insert into transactions values (5000,'cash','1','11-dec-2019', '20-dec-2019','0001', '114477881', '1');**

**insert into transactions values (6000,'card','2','10-nov-2019', '26-nov-2019','0020', '996633881', '2');**

**insert into transactions values (7000,'cash','3','9-mar-2019', '25-mar-2019','0033', '887799664', '3');**

**insert into transactions values (8000,'card','4', '2-feb-2020' , '24-feb-2020', '3300', '778866224', '4');**

**insert into transactions values (9000,'cash','5', '4-may-2020', '11-may-2020','1002', '996633881', '5');**

**insert into prepare values ('43231','772266554');**

**insert into prepare values ('34442','225588771');**

**insert into prepare values ('12388','772266554');**

**insert into prepare values ('12456','772266554');**

**insert into prepare values ('12341','225588771');**

**insert into Request1 values ('2/jan/2019', '0001', 'cleaning', '1', '776611558');**

**insert into Request1 values ('2/feb/2020', '0033', 'cleaning', '5', '776611558');**

**insert into Request1 values ('1/aug/2019', '0020', 'food', '3', '774411881' );**

**insert into Request1 values ('2/mar/2018', '0020', 'food', '2', '774411881' );**

**insert into Request1 values ('14/jan/2018', '0020', 'food', '4', '774411881' );**

**insert into Request2 values ('12-feb-2020','0001', 'Food', '776611558','114477881');**

**insert into Request2 values ('14-jan-2021','0020', 'Clean' , '774411881', '996633881');**

**insert into Request2 values ('7-jan-2021', '0033', 'Food', '776611558', '887799664');**

**insert into Request2 values (' 3-dec-2020', '3300', 'Clean', '774411881', '778866224');**

**insert into Request2 values ('9-nov-2019', '1002', 'food' ,'776611558','996633881');**

**Conclusion :**

**It is clear from studying this research that the tourism sector is the most attractive sector in any country, which in turn contributes to the development of several economic sectors, such as increasing foreign and domestic investments, and providing jobs, and. Trying to move away from the reliable bitmap dependency in some countries.**

**We built a very good design schema for hotel in 3`rd normal form ,where we built er-diagram that answer all questions asked ,then we made mapping this ER into tables , wrote DDL command and inserted the data, and finally built queries to ask the questions asked.**

**We hope that this topic was useful and won your admiration.**

**References :**

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