Group No:- 17

Mukund Ladani(202003039)
Kashyap Halavadia(202003040)

Lab5(17/09/2021)
Restaurant-Franchise Management System

SQL script:

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create schema RestaurantFranchisee;

set search_path to RestaurantFranchisee;

create table branch(
Trading_license_no decimal(6,0) check(Trading_license_no>99999 and
Trading_license_no<1000000) primary key,
Rating int check(Rating>0 and Rating<=5),
Locality varchar(15) not null,
PIN_code decimal(6,0) check(PIN_code>99999 and PIN_code<1000000)
not null,
City varchar(20) not null,
Region varchar(12) not null
);


create table employee(
EID decimal(10,0) check(EID>999999999 and EID<10000000000) primary
key,
branch_license_no decimal(6,0) references branch(Trading_license_no) on
update cascade not null,
first_name varchar(15) not null,
middle_name varchar(15),
last_name varchar(15) not null,
gender char(1) check(gender in('M','F','O')) not null,
monthly_salary decimal(7,2) check(monthly_salary>4000 and
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monthly_salary<50000) not null,
contact_no decimal(10,0) check(contact_no>999999999 and
contact_no<10000000000) not null,
Aadhar_no char(12) not null,
City varchar(12) not null,
Locality varchar(12) not null,
PIN_code char(6) not null,
Job_position varchar(12) not null,
Joining_date date not null,
company_employee bool not null,/*acts as a flag*/
Work_status varchar(8) check(work_status in('active','inactive')) ,
overall_performance varchar(14) check(overall_performance
in('average','good','excellent')),
promotion_eligibilty boolean
);

create table emp_audit(
        operation char(1) not null,
        stamp timestamp not null,
        userid text not null,
        branch_license_no numeric(6) NOT NULL,
        first_name varchar(15) NOT NULL,
        middle_name varchar(15) NULL,
        last_name varchar(15) NOT NULL,
        gender bpchar(1) NOT NULL,
        monthly_salary numeric(7, 2) NOT NULL,
        contact_no numeric(10) NOT NULL,
        aadhar_no bpchar(12) NOT NULL,
        city varchar(12) NOT NULL,
        locality varchar(12) NOT NULL,
        pin_code bpchar(6) NOT NULL,
        job_position varchar(12) NOT NULL,
        joining_date date NOT NULL,
        company_employee bool NOT NULL,
        work_status varchar(8) NULL,
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        overall_performance varchar(14) NULL,
        promotion_eligibilty bool NULL

);


create table dependents(
EID decimal(10,0) references employee(EID) on delete cascade on update
restrict,
First_name varchar(15),
Middle_name varchar(15),
last_name varchar(15),
gender char(1) check(gender in('M','F','O')) not null,
Relationship varchar(8) not null,
primary key(EID,First_name,last_name)
);
alter table dependents alter column relationship type varchar(20)

create table company_owned_branch(
Trading_license_no decimal(6,0) references branch(Trading_license_no) on
delete cascade on update cascade primary key,
Revenue_generated_monthly decimal(8,2) not null
);
alter table company_owned_branch
alter column revenue_generated_monthly type numeric(12,2)


create table advertisement(
Advertisement_code char(5) primary key,
branch_no decimal(6,0) references
company_owned_branch(Trading_license_no) on delete cascade on update cascade
not null,
service_provider varchar(35) not null,
Mode_of_Ad varchar(30) not null,
monthly_charge decimal(6,2) not null
```

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);


create table branch_statistics(
Trading_license_no decimal(6,0) references branch(Trading_license_no) on
delete cascade,
Year decimal(4,0) check(year>1900 and year<3000),
Most_selling_dish varchar(40),
Expenditure_on_tax decimal(8,2) not null,
primary key(Trading_license_no,Year)
);


create table supplier (
supplier_name varchar(20) not null,
office_locality varchar(15) not null,
office_pin_code decimal(6,0) check(office_pin_code>99999 and
office_pin_code<1000000) not null,
office_city varchar(20) not null,
primary key(supplier_name,office_locality,office_city)
);


create table raw_material(
material_name varchar(15) primary key,
material_type varchar(10) check(material_type in
('dairy','vegetables','meat','other')) not null
);


create table supplies(
supplier_name varchar(20) not null,
supplier_office_locality varchar(15) not null,
supplier_office_city varchar(20) not null,
raw_material_name varchar(15) references raw_material(material_name) on
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delete restrict on update restrict ,
foreign key(supplier_name,supplier_office_locality,supplier_office_city)
references supplier(supplier_name,office_locality,office_city) on delete restrict on
update cascade,
primary
key(supplier_name,supplier_office_locality,supplier_office_city,raw_material_nam
e),
cost decimal(7,2) not null
);


create table supplied_to(
branch_no decimal(6,0) references
company_owned_branch(Trading_license_no) on delete cascade on update
cascade,
supplier_name varchar(20) not null,
supplier_office_locality varchar(15) not null,
supplier_office_city varchar(20) not null,
raw_material_name varchar(15),
quantity_bought decimal(7,2) not null,
primary
key(branch_no,supplier_name,supplier_office_locality,supplier_office_city,raw_m
aterial_name),
foreign
key(supplier_name,supplier_office_locality,supplier_office_city,raw_material_nam
e) references
supplies(supplier_name,supplier_office_locality,supplier_office_city,raw_material
_name) on delete cascade on update cascade
);


create table dish (
dish_name varchar(30) primary key,
price decimal(5,2) not null,
veg_or_nonveg char(1) check(veg_or_nonveg in ('V','N')) not null,
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description varchar(50) not null,
speciality varchar(50),
region varchar(25),
signaturedish bool not null
);


create table franchiseecompany (
cin char(21) primary key, /* cin(Corporate_identity_no) */
company_name varchar(20) not null,
head_manager varchar(20) not null,
office_locality varchar(15) not null,
office_pin_code decimal(6,0) check(office_pin_code>99999 and
office_pin_code<1000000) not null,
office_city varchar(20) not null
);
create table frachisee_owned_branch (
Trading_license_no decimal(6,0) references branch(Trading_license_no) on
delete cascade on update cascade,
cin char(21) references franchiseecompany(cin) on delete cascade on update
cascade not null,
royalty_fees decimal(8,2) not null,
primary key(Trading_license_no)
);
create table contact_details (
office_cin char(21) references franchiseecompany(cin) on update cascade on
delete cascade,
contact_no decimal(10,0) check(contact_no>999999999 and
contact_no<10000000000),
primary key(office_cin,contact_no)
);
create table branch_serving (
branch_no decimal(6,0) references branch(Trading_license_no) on delete
cascade on update cascade,
dish_name varchar(30) references dish(dish_name) on delete restrict on
```

update cascade,
primary key(branch_no,dish_name)
);

Application specific constraint and features:

1) Branches are of two sub-types Franchise owned and company owned, forming a total participating disjoint IS-A Relation. So, whenever we are adding a new branch we need to check that it gets inserted in only one of the two sub-type(i.e. either a branch can be company-owned or franchisee operated). This check Constraint cannot be implemented using DDL hence it is application specific constraint.

2) As for the employees of company-owned branch we have additional information(i.e. Employee statistics) in our database, so when a particular employee is a company employee(indicated by a boolean true) then a particular set of attributes should be not null and otherwise it can be null. This not null Constraint cannot be implemented using DDL hence it is application specific constraint.

3) Similarly, in a dish we have a signature dish (a bool attribute) which indicates the speciality of that region. So whenever a dish is added in dish table we need to check that if the signature dish bool is true then a particular set of attributes should be not null and otherwise it can be null. This not null Constraint cannot be implemented using DDL hence it is application specific constraint.

4) If an employee is no longer working in the branch then his/her work status in employee statistics is set to “inactive”.

5) So if a branch gets closed due to some reason then we will keep the data of all the employees of that branch in the employee table but the work status column of all those employees will be set to “inactive” in the employee statistics table.

6) There are some application constraints on CIN-number.CIN number is a corporate identification number, it is a 21 character alpha-numeric number The first digit must be an alphabet (either ‘U or L’). The next 5 digits will be integers and characterize economic activity of the company. Then the next two will be alphabets denoting the Indian state where the company is registered.

7) The next four digits will be numeric and signify the year of incorporation of the company. The next three digits will be alphabets and denote that company is private limited or public limited company followed by six numeric digits denote the number provided by the respective Registrar of Companies (ROC).

8) CIN number is like:-
   ANNNNNAANNNNAAANNNNNN ,
   where A denotes the alphabet and N denotes numeric value.

9) Advertisement code(Advertising Standard Code) is a 5 character code,The first two characters will be alphabets denoting type of advertisement from “PO”, “SM”, “TV” and the next 3 characters will be numeric type.

Where “PO” is for poster,

“SM” is for Social Media,

“TV” is for television.

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