

Group No:- 17
Mukund Ladani(202003039)
Kashyap Halvadia(202003040)
Lab2(27 /08/2021)

Title: Restaurant Franchise Management System

Database for storing records of restaurants of a company which has its restaurant branches all across Gujarat.

Scope of database:-

Our restaurant company has branches all across Gujarat, the database will be used to keep track of all the basic information about this business like what all are requirements to run a restaurant like keeping track of which restaurants are franchisee-operated and which are self-owned. The database will maintain a record of all the employees working, food items served, suppliers involved, expenditure and revenue generated. It will record detailed information of the branches which are directly operated by our company .

For eg it will have details like most selling dishes of a particular branch in a particular year, dependent details of an employee, details of the company which are operating our restaurants which are operated by the franchisee companies in our brand name.

Description/requirements:-

- 1) Each restaurant branch has a Trading License No , branch code, rating of that branch and address. Address will be composed of locality, PIN code, city and region.
- 2) Further Branches will have two types of ownership: Franchisee owned and Company-owned (self-owned). So it will be creating two sub-entities (franchisee owned branches and company-owned branches) of the super-entity branch.
- 3) Every branch is either a Franchisee owned or Company-owned (self-owned) Franchisee owned branch has additional attribute of royalty fees and company-owned branch has additional attribute of revenue generated.
- 4) There will be separate relations for franchisee-owned and company owned branch. The total participation with disjoint-IS-A relationship is ensured by use of triggers on both franchisee-owned and company-owned branch.
- 5) The company will have several employees working in it. Each employee is identified by an EID no. Employees will have name, gender, salary,date of joining and personal details. Personal details will include contact number, Aadhar no, and permanent address. There can be zero or more contact numbers of an employee.

Permanent address will further be composed of locality, state, PIN code. An employee will have a job position in the given branch.

- 6) An employee works in a branch and a branch may have more than one employee.
- 7) Many branches of the restaurant are operated and managed by Franchisee companies. Each Franchisee company is identified by its CIN(Corporate identity No) no. Further, Franchisee companies have the name, name of the head manager, contact details of their main office. Contact details will contain contact number and Address. And Address will be composed of locality, PIN code, city/region.
- 8) Also CIN no is a 21 character long alpha-numeric no which has to follow a specific format, so the database will allow to insert a row into this franchisee company table only if it follows some specific format. This is implemented through triggers.
- 9) Franchisee company may operate none or many branches and every Franchisee-owned branch must be operated by any of the one Franchisee company.
- 10) Branches which are company-owned will have branch statistics. Branch statistics will include TLN(Trading License No), most selling dish, and expenditure on tax in a particular year in that branch . There can be one or more best selling dishes in the branch.
- 11) Branch statistics is for a particular Company-owned branch, so branch statistics will depend on the branch. Company-owned branches have branch statistics and each branch statistics instance must be of some branch.
- 12) Employees which work in company-owned branches will have additional employee statistics. We named this Employee statistics as company employee. It includes employee work status, overall

performance (satisfactory, good, excellent) and eligible for promotion(Yes/No).

- 13) Only those employees which work in company-owned branches will have employee statistics, as the franchisor has the statistics of only these employees. And each employee statistics instance must be for some employee.
- 14) Also we will keep track of employee data in a separate table called emp_audit. As a company we need to keep records of which employee details were deleted from our database, and by whom it was done , at what time and so on. What updates were made in employee details in the database and by whom. So we will implement these using triggers and stored procedures.
- 15) As a Restaurant company it requires raw materials. Each raw material will have a name and its type. Each raw material will be uniquely identified by its name.
- 16) Each company-owned branch will require a different type and quantity of raw material instances. And this will also affect the total expenditure spent on raw material by a specific company-owned branch depending on the cost of raw material provided by the supplier.
- 17) Raw materials will be supplied by the supplier. Each supplier will have the name , Office location(of the raw material it provides) and phone number. Office location is further composed of locality, PIN code and city.
- 18) A raw material may be supplied by some supplier, and a supplier may supply one or more than one raw material.
- 19) Each Company-owned branch may have a supplier supplying raw materials. Each supplier can supply one or more raw materials to one or more than one company-owned branch and each

company-owned branch can be supplied with different types of raw materials from different suppliers.

- 20)** Supplier supplies some raw-materials for which the charge and amount of supplying raw-materials will be recorded.
- 21)** A branch can have some common serving dishes in their Menu. Each dish will be uniquely identified by the name of the dish. Further dish entity will include the price of the dish, Veg/Non-veg, description of the dish .
- 22)** A dish may be in the menu of one or more branches, and branches will have dishes in their menu.
- 23)** A branch instance may have a signature dish. Every signature dish will have additional information like the speciality of that dish and region in which it is available.
- 24)** Every Branch can have zero or more signature dishes depending on the location of the given Branch.
- 25)** Also some data like the menu of a specific branch needs to be accessed by the customers very often, so data like these should be made available to the specific users at a very fast pace. So we have made stored procedures which will take some input and display the required output so that these operations can be done at a faster rate. Another example of it is like displaying all the information of a franchisee company by giving its CIN as a input to the stored procedure.
- 26)** Company-owned branches use advertisements for their promotion and popularity among customers. Each advertisement is uniquely identified by Ad-code. Further advertisement will be done through a service provider, it will have some mode of

advertisement[printed or digital], and monthly cost for doing that advertisement.

- 27) The ad_code of advertisements will be of specific format, it is a 5 letter alpha-numeric number whose first two letters should be alphabets denoting the mode of advertisement and the last three letters will be integers. So we need to check before a tuple is inserted in the advertisement table that if it is valid or not. Insertion will be allowed only if it is valid.
- 28) A company-owned branch uses zero or more advertisements to attract customers. And each advertisement must be promoting one of the Company-owned branches.
- 29) Also different types of users can be accessing database like franchisor itself, any particular franchisee company manager, manager of a particular branch or any customer, so accordingly what data can be accessed by whom should also be taken into consideration. For implementing this we have used views.

Queries that database would answer:-

- 1) List the name of all employees who work in science-city, Ahmedabad branch and have joined the restaurant after 1/1/2015.
- 2) Give the signature dish of the branch in Adajan, Surat branch and the region in which this signature dish is available.
- 3) List which suppliers supply which raw materials in the science-city, Ahmedabad branch.
- 4) What amount is spent in buying raw materials in science-city, Ahmedabad branch in this month.

- 5) List the top 3 branches which spent the highest in advertisements.
- 6) What is the revenue generated in paldi, Ahmedabad branch in 2020?
- 7) List out all the branches owned by (user-given) franchisee company
- 8) List out the top 5 branches in Ahmedabad which are generating highest revenue in 2020.
- 9) Which Franchisee company is offering lowest/Highest royalty fees?
- 10) Which signature dishes are available in Saurashtra region?
- 11) List all the dishes available in the menu which are vegetarian and are having price less than Rs 200.
- 12) List all the branches which are spending less than Rs10,000 on advertisement and are generating revenue greater than Rs 80,000.
- 13) List all the employees having experience of greater than or equal to 5 years in company-owned branches.
- 14) Which company-owned branch has generated the highest revenue in 2020?
- 15) List down all the franchisee companies operating more than 3 branches.

