IT20661410

**Requirement Scenario**

* Customer has Cid(unique),Cus\_name,Cus\_address,Mobile\_no.

Customer can use many mobile numbers.

* Reg\_customer is a customer which have Cus\_id and Cus\_type.
* UnReg\_customer is a customer which have nic.
* Customer can views menu.Menu has menu\_code(unique),lunch.dinner,dessert,short eats.
* Customer can place many orders.
* Order has Oid(unique),Quantity,O\_name,Description.
* Take\_away is a order which have waiting\_time and No\_Of\_Parcels.
* Dine in is order which have Table\_no and No\_Of\_Guests.
* Dine in order serves by waiter.
* Waiter has Waiter\_id(unique), Waiter\_salary,Waiter\_age,Waiter\_name.
* Many order prepare by many chefs.
* Chef has Chef\_id(unique),chef\_name,chef\_salary,chef\_age.
* Manager has Mang\_id(uniquea),Mang\_name,Mang\_nic,Mang\_phone.
* One Manager manages many chefs as well as one manager manages many cashiers.
* Cashier has C\_id(unique),C\_name,C\_salary,C\_age.
* Cashier can receives a payments.
* Payments has Pid(unique),Amount,Qty,MRP.
* One customer makes one payment at a time.
* When Cashier receiving a payment,system automatically generate a bill.
* Bill has Bill\_id(unique),Date,Amount,Other\_details and it can generate many Bills.
* Customer gives Feedbacks and Feedbacks has a F\_id(unique),Order\_details,Order\_type,Order\_date.
* Possitive feedback is a Feedbacks.
* negative feedbacks is a Feedbacks.
* Restaurant has many tables and table has one Resturant R-id(unique),R\_name,R\_address,R\_phone.

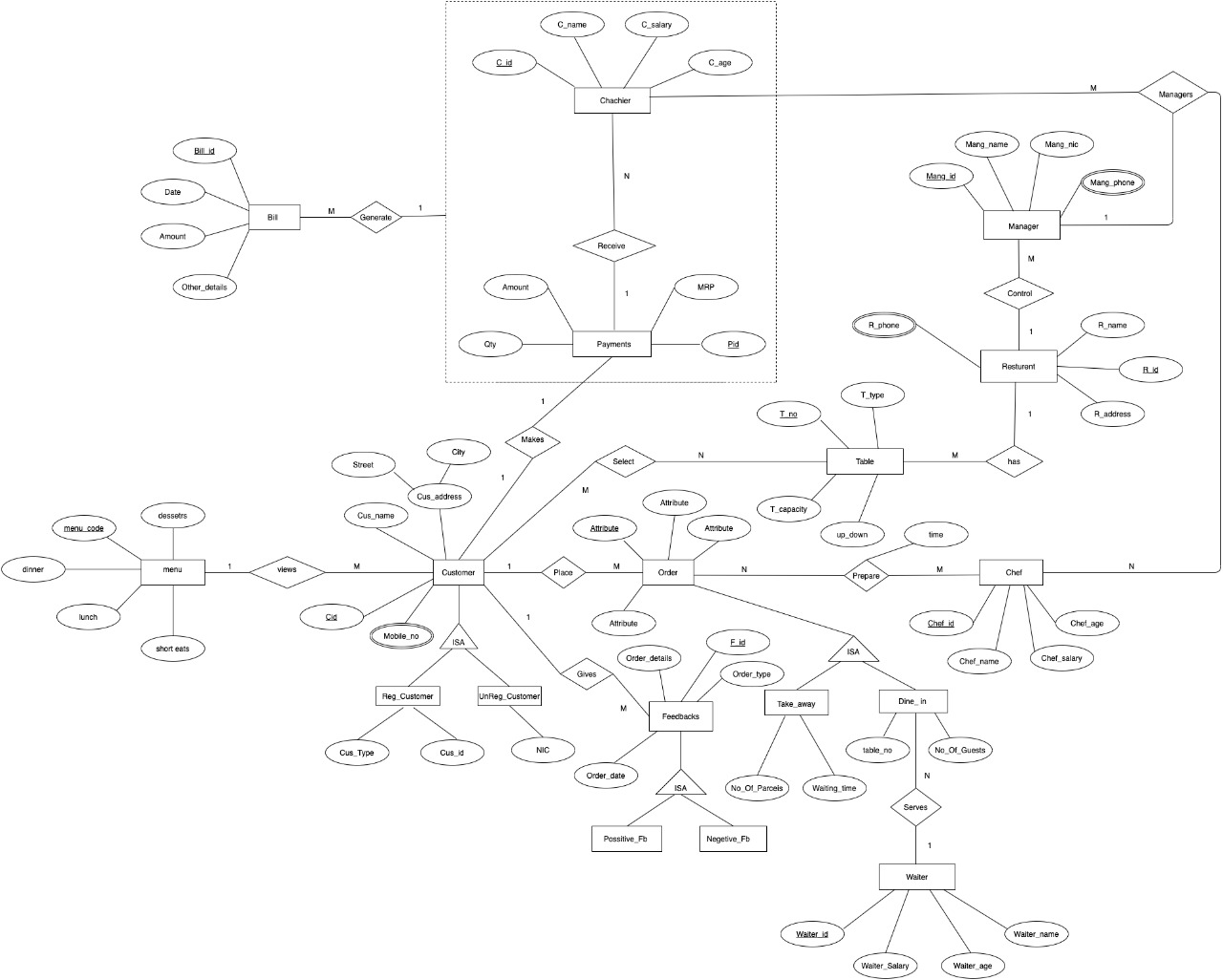
Resturant has many phone numbers.

* Table has T\_no(unique),T\_type,T\_capacity,up\_down.
* Customer can setect many table.
* Restaurant is control by one or many managers.Managers has Mang\_id(unique),Mang\_name,Mang\_nic,Mang\_phone.

Manager has many phone numbers.

* Manager can manages many Chachier and can manage many chefs.

**EER Diagram**



**Relational Relationship**

Option 3

ISA registered customer and unregistered are subclasses in customer class.The relationship must be disjoint and it not allow overlapping.Subclass also have few attributes.

Customer(Cid,Cus\_name,Street,city,Cus\_Type,Cus\_id,NIC,menu\_code)

Foreign key(menu\_code)references menu(menu\_code)

Customer\_Phone (Cid,Mobile\_no)

Foreign key(Cid)references Customer(Cid)

menu(menu\_code,dessetrs,lunch,short eats,dinner)

Option 1

ISA Take away and Dine in are the subclasses in Order class.Dine in order have relationship with another entity (Dine in Order is served by waiter.)Therefore cannot use option 3 and option 4,Order must be either Take or a Dine in order.There annot be any partial constraints.

This option works for all constraints disjoint,overlapping,total and partial.

Order(Oid,Quantity,Order\_name,Description,Cid)

Foreign key(Cid)references Customer(Cid)

Take\_away(Oid,Waiting\_time, No\_Of\_Parceis)

Foreign key(Oid)reference Order(Oid)

Dine\_in(Oid,Table\_no, No\_Of\_Guests,Waiter\_id)

Foreign key(Oid)reference Order(Oid)

Foreign key(Waiter\_id)reference Waiter(Waiter\_id)

Waiter(Waiter\_id,Waiter\_Salary,Waiter\_age,Waiter\_name)

Chef(Chef\_id,Chef\_name,Chef\_salary,Chef\_age,Mang\_id)

Foreign key(Mang\_id)reference Manager(Mang\_id)

Prepare(Oid,Chef\_id,time)

Foreign key(Oid)reference Order(Oid)

Foreign key(Chef\_id)reference Chef(Chef\_id)

Table(T\_no,T\_type,T\_capacity,up\_down,R\_id)

Foreign key(R\_id)reference Resturent(R\_id)

Select(T\_no,Cid)

Foreign key(T\_no)reference Table(T\_no)

Foreign key(Cid)reference Customer(Cid)

Resturent(R\_id,R\_address,R\_name)

Resturent\_Phone(R\_id,R\_phone)

Foreign key(R\_id)reference Resturent(R\_id)

Manager(Mang\_id,Mang\_name,Mang\_nic,R\_id)

Foreign key(R\_id)reference Resturent(R\_id)

Manager\_ManagerPhone(Mang\_id,Mang\_phone)

Foreign key(Mang\_id)reference Manager(Mang\_id)

Chachier(C\_id,C\_name,C\_salary,C\_age,Mang\_id,Pid)

Foreign key(Mang\_id)reference Manager(Mang\_id)

Foreign key(Pid)reference Payment(Pid)

Manages(Chef\_id,C\_id)

Foreign key(Chef\_id)reference Chef(Chef\_id)

Foreign key(C\_id)reference Chachier(C\_id)

Payment(Pid,Qty,Amount,MRP,Cid)

Foreign key(Cid)reference Customer(Cid)

Bill(Bill\_id,Date,B\_amount,Other\_details,C\_id)

Foreign key(C\_id)reference Chachier(C\_id)

Option 3

Create a single relation including attributes of the superclass as well as attributes of all sub classes.The specialization/generalization relationship

Feedbacks(F\_id,Order\_details,Order\_type,Order\_date,Cid)

Foreign key(Cid)reference Coustomer(Cid)

**Query**

1. Query 01

Select c.Cus\_name,p.Amount,p.Qty

From Customer c,Payment p, Cashier c

Where c.Pid = p.Pid

Group by Cus\_name

Having max (Amount) > 1000

1. Query 02

Select c.Cus\_name

From customer c, Payments p, Cashier ch

Where Customer c,Pid AND p.Pid = ch.Pid IN (Select Pid

From Cashier

Where C\_name = ’Dilshan’)

Function/procedure

This function is created to get number of customers from a given city.

create function fn\_getCustomerCount (@city varchar( (30) ) returns int

as

begin

declare @count int

select @count=count(\*)

from Customer

where city = @city

return @count

end

Declare @cnt int

exec @cnt = fn\_getCustomerCount ‘Matugama’

print @cnt

Triggers

create trigger CheckCash\_Salary

on Cashier

for insert, update

as

begin

declare @cashSalary real, @mangSalalary real

declare @mangID int

select @cashSalary = C\_salary , @mangID = Mang from inserted

select @mangSalary = e.salary from Manager m , Cashier c

where m.Mang\_id = c.C\_id and m.Mang\_id = @mangID

if @cashSalalary > @mangSalary

begin

print’Cashier Salary cannot exceed manager salary’

rollback transaction

end

end