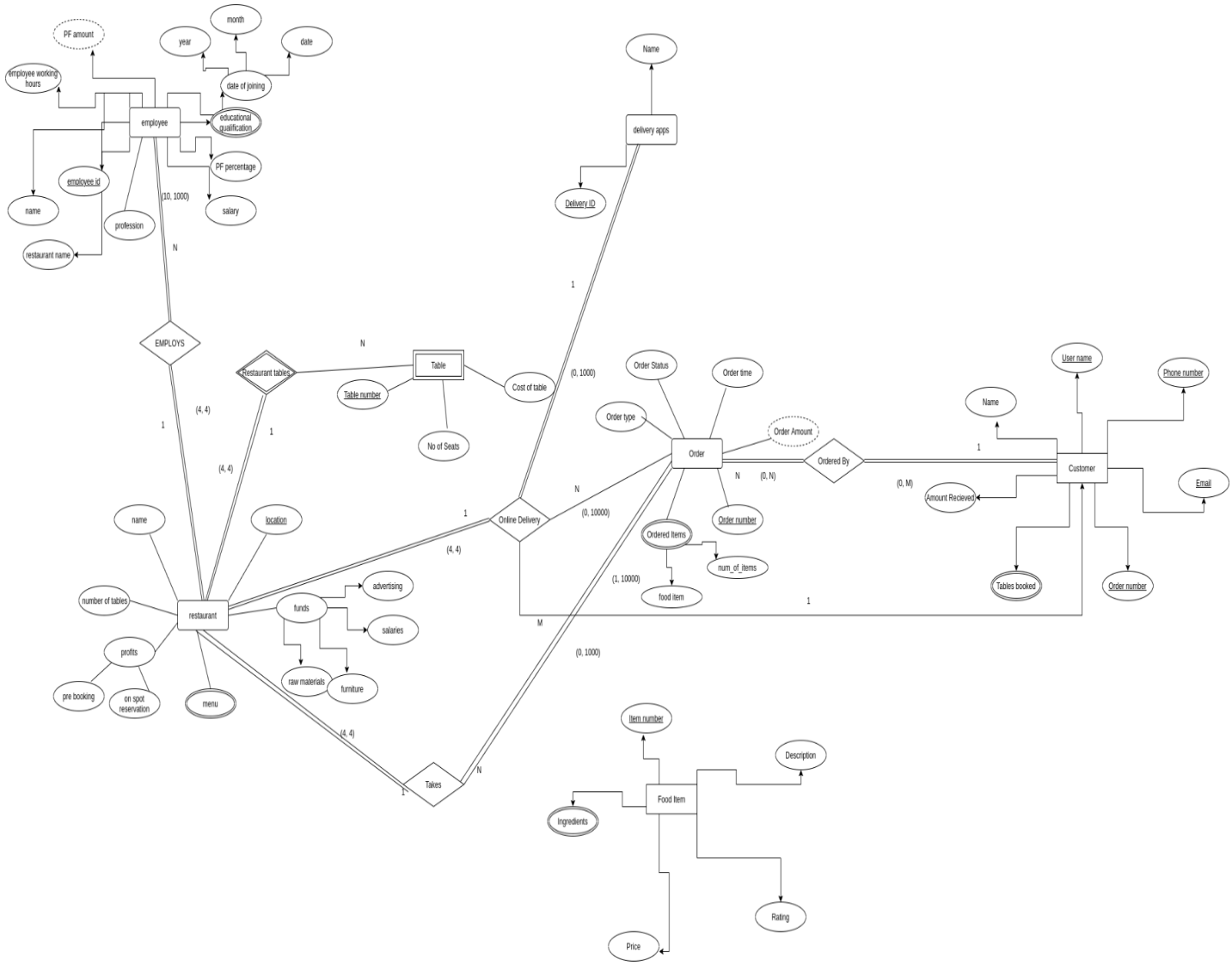
Anonymous3
Final ER Diagram:



Changes made in both requirements doc and ER model :

1. CONTAINS Relation is not included(deleted).

2. Online delivery is not connected to food items, instead it is connected to CUSTOMER.
3.Order number attribute in the delivery apps entity type is removed and delivery id is made as key attribute.

Changes made in ER model document alone:

1.'ordered items' attribute in order entity type is made composite in the ER model.

Changes made in requirements document alone:

1.Menu is just a multivalued attribute.It is not composite.Funds is only composite.
2.Order number in the customer entity is the latest order number of the customer.

ER model - Relational conversion:

For each regular entity in the ER schema,we created a relation .
There are no binary relations of 1:1 relationship type in the data model.
If there is a 1:N binary relationship between S and T:: let S be the entity participating at the N-side of the relationship type. We Included as foreign key in S the primary key of the relation T.
Eg:employs,ordered by,takes etc
There are no binary relations of M:N relationship type in the data model.
For each weak entity type W in the ER schema with owner entity type E, we created a relation R, and included all simple attributes of W as attributes of R, plus the primary key of E.
Eg: W=Tables,E=Restaurant

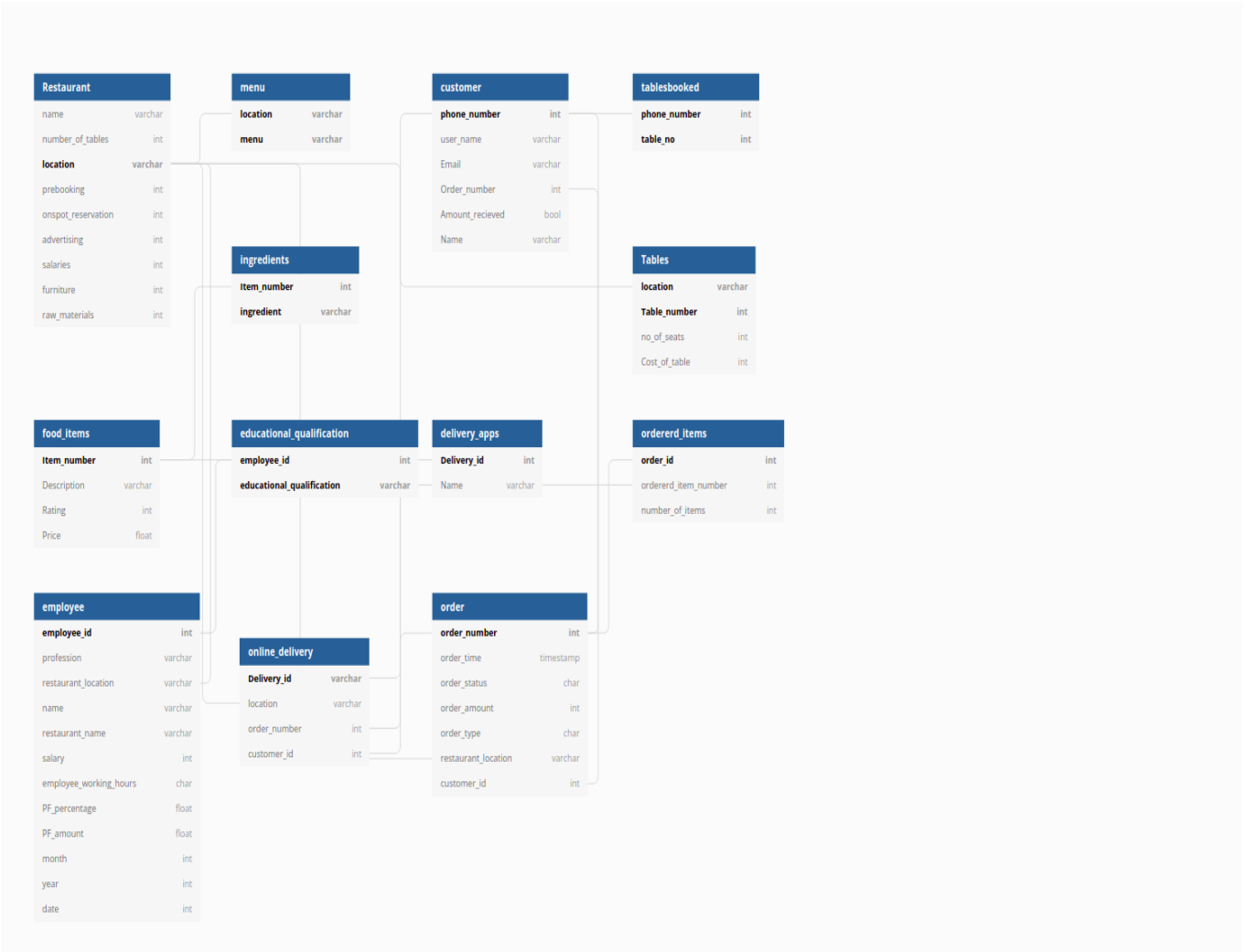
For each multivalued attribute A,we created a new relation R that includes an attribute corresponding to A plus the primary key attribute K (as a foreign key in R) of the relation that represents the entity type or relationship type that has A as an attribute.
eg:Menu,ordered items etc
For each n-ary relationship type n >1,we created a new relation S to represent R.we Included as foreign key attributes in S the primary keys of the relations that represent the participating entity types.
Eg: online delivery.

It is in 1st Normal Form
The values in the domain of each attribute are atomic in the Relation schema.It is already in 1st Normal form.

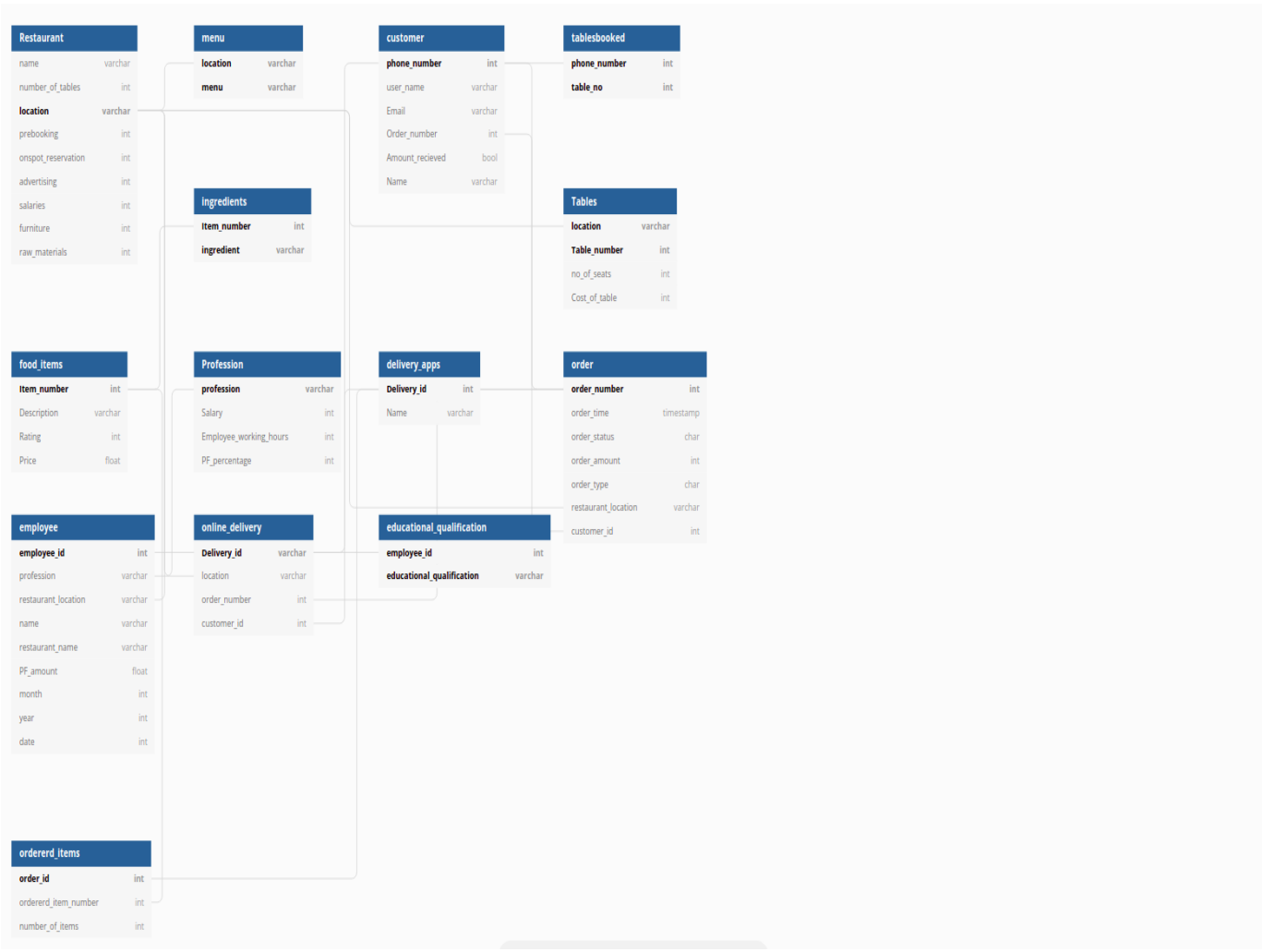
It is in 2nd Normal Form
There are no partial dependencies, because all the tables have single candidate key, except tables which has full dependency. That it there are no partial dependencies..

3rd Normal Form:
X->Z, Z->Y where Z is not any key in the relation schema then it violates the 3rd normal form.
TRANSITIVE DEPENDENCY EXISTS:
In Employee entity,
Employee Id -> Profession -> Salary ,
Employee Id-> Profession -> Employee working hrs
Employee Id -> Profession -> PF percentage
Profession is not a key.
So a separate entity Profession is created to make it to 3rd NF.

The diagram link for 1st,2nd,Relational model:
https://dbdiagram.io/d/6166ffe3940c4c4eec93d6c8



The diagram link for 3rd normal form:
https://dbdiagram.io/d/615e9059940c4c4eec8967cc


Restaurant
name varchar
number_of_tables int
location varchar
prebooking int
onspot_reservation int
advertising int
salaries int
furniture int
raw_materials int
menu
location varchar
menu varchar
customer
phone_number int
user_name varchar
Email varchar
Order_number int
Amount_recieved bool
Name varchar
tablesbooked
phone_number int
table_no int
ingredients
Item_number int
ingredient varchar
Tables
location varchar
Table_number int
no_of_seats int
Cost_of_table int
food_items
Item_number int
Description varchar
Rating int
Price float
Profession
profession varchar
Salary int
Employee_working_hours int
PF_percentage int
delivery_apps
Delivery_id int
Name varchar
order
order_number int
order_time timestamp
order_status char
order_amount int
order_type char
restaurant_location varchar
customer_id int
employee
employee_id int
profession varchar
restaurant_location varchar
name varchar
restaurant_name varchar
PF_amount float
month int
year int
date int
online_delivery
Delivery_id varchar
location varchar
order_number int
customer_id int
educational_qualification
employee_id int
educational_qualification varchar
ordererd_items
order_id int
ordererd_item_number int
number_of_items int