INFORMATICS INSTITUTE OF TECHNOLOGY

DATABASE SYSTEM

5COSC008C.1

Coursework - Part A + Part B

FOODTOOYOO – Grocery store
Futuro – Careers and Professional Dev. Service

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Tutorial Goup - I

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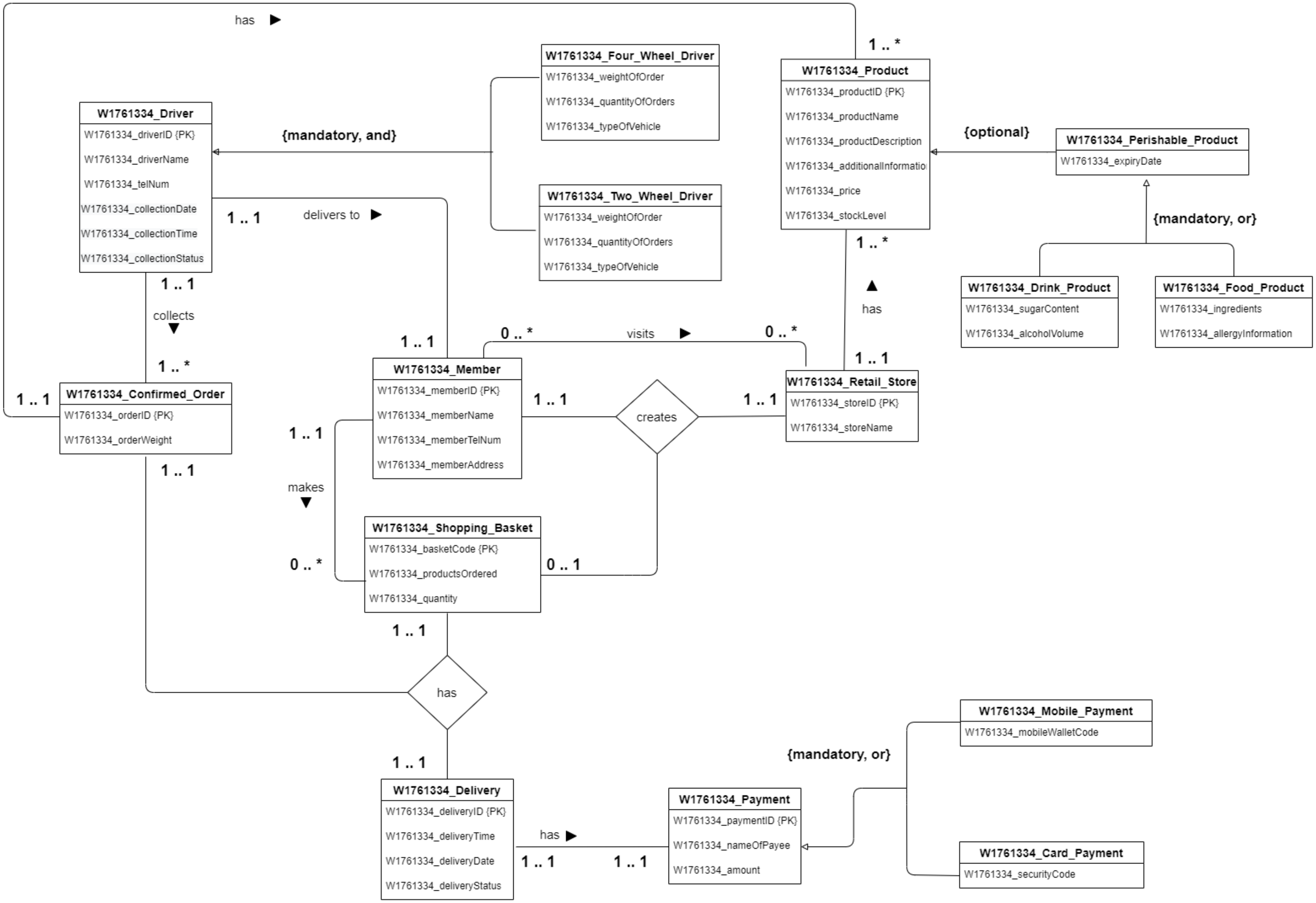
1. Conceptual Diagram



2. Data Dictionary

A. To identify entities

No.	Entity Name	Description
01	W1761334_Member	The FOODTOOYOO service was initiated for the benefit of the members. Members can do groceries through this service.
02	W1761334_Retail_Store	Members are allowed to make their groceries using this service through registered retail stores.
03	W1761334_Shopping_Basket	Members are allowed to creates their own shopping baskets. Each shopping baskets should be used by a member to make their order in different stores.
04	W1761334_Product	Every grocery has a wide range of products. Members are allowed to add these products to the shopping baskets from different retail stores.
05	W1761334_Perishable_Product	Products can be perishable products.
06	W1761334_Drink_Product	Perishable products can be a drink product.
07	W1761334_Food_Product	Perishable products can be a food product.
08	W1761334_Delivery	Once the members are done adding products to the shopping basket, they are allowed to request delivery of the products they ordered.
09	W1761334_Payment	There should be a payment done in-order to receive the products.
10	W1761334_Card_Payment	The payments can be made by card.
11	W1761334_Mobile_Payment	The payment can either be made through the mobile too.
12	W1761334_Confirmed_Order	Once the products are added to the basket, the member should confirm the order to proceed the purchases.
13	W1761334_Driver	The drivers are owned by this service, to deliver the products to relevant member.
14	W1761334_Four_Wheel_Driver	Four-wheel drivers, drives vehicles as cars and vans. If the order is of a large number or the collection is greater, the driver selects the four-wheel vehicle.
15	W1761334_Two_Wheel_Driver	Two-wheel drivers, drives vehicles as mopeds and bicycles. If the order is of a single orders or orders are of limited size, the driver selects the four-wheel vehicle.

B. To identify Generalized and Specialized entities

No.	General Entity	Specialized Entity	Explanation
01	W1761334_Product	W1761334_Perishable_Product	Members can add products to their shopping basket. Products can either be perishable or non-perishable too. Perishable products have an expiry date.
02	W1761334_Perishable_Product	W1761334_Drink_Product & W1761334_Food_Product	Perishable products are the products that gets expired. Perishable products have two sections such as Food type and Drink type. It can be either a food or a drink only.
03	W1761334_Driver	W1761334_Four_Wheel_Driver & W1761334_Two_Wheel_Driver	Drivers delivers the ordered products to the relevant members. Drivers divide to two sectors according to the order collection. If there are few orders or limited size, the driver selects the two-wheel vehicle. So, he is considered as two-wheel driver. If the collection is larger, the driver selects the four-wheel vehicle. So, he is considered as four-wheel driver.
04	W1761334_Payment	W1761334_Card_Payment & W1761334_Mobile_Payment	Members should make the payment once they confirm their order. Payment can be done in two different methods. The member is allowed to make payments through the phone and also through card.

3. Data Dictionary to identify relationships & multiplicities

a. Binary Relationships

No	Entity Name	Multiplicity	Relationship	Multiplicity	Entity Name
01	W1761334_Driver	1 .. 1	delivers to	1 .. 1	W1761334_Member
02	W1761334_Driver	1 .. 1	collects	1 .. *	W1761334_Confirmed_Order
03	W1761334_Delivery	1 .. 1	has	1 .. 1	W1761334_Payment
04	W1761334_Confirmed_Order	1 .. 1	has	1 .. *	W1761334_Product
05	W1761334_Retail_Store	1 .. 1	has	1 .. *	W1761334_Product
06	W1761334_Member	0 .. *	visits	0 .. *	W1761334_Retail_Store
07	W1761334_Member	1 .. 1	visits	0 .. *	W1761334_Shopping_Basket

01.

a. A driver delivers an order to at-least one member
b. A driver can deliver an order to maximum of one member
c. A member receives the order by at-least one driver
d. A member receives the order by only one driver

02.

a. A driver has to collect at-least one order
b. A driver can collect many orders
c. An order is collected at-least by one driver
d. An order can only be collected by a driver

03.

a. A delivery has a compulsory payment
b. A delivery has only one payment maximum
c. A payment has to be done for a particular delivery
d. A payment is done for only one particular delivery

04.

a. One order has minimum of one product
b. One order has maximum of many products
c. One product has to be in an order
d. One product can be only in one order

05.

a. A retail store has at-least one product
b. A retail store can have many products
c. A product has to be in a retail store
d. A product can only be in one retail store

06.

a. A member may or may not visit the shopping store
b. A member may visit many stores according his requirements
c. A store can may or may not be visited by a member
d. A store can be visited by many members to maximum

07.

a. A member may or may not make a shopping basket himself
b. A member can make many shopping baskets according to his requirements
c. A shopping basket should at-least be owned by one member
d. A shopping basket can be owned only by one member

b. **Ternary Relationships**

No	Entity Name	Multiplicity	Relationship	Multiplicity	Entity Name
01	W1761334_Member	1 .. 1	creates	0 .. 1	W1761334_Shopping_Basket
				1 .. 1	W1761334_Retail_Store
02	W1761334_Confirmed_Order	1 .. 1	has	1 .. 1	W1761334_Shopping_Basket
				1 .. 1	W1761334_Delivery

01.

a. A member doesn't need to create a basket from a store
b. A member can create only one basket from a particular store
c. A shopping basket can only be created by one member from one store
d. A shopping basket can be created by up-to one member from one store in maximum
e. A retail store doesn't require a shopping basket to be owned by a member
f. A retail store can have one shopping basket owned by only one member

02.

a. A shopping basket should at-least be confirmed in-order to request a delivery
b. A shopping basket can only be confirmed once in-order to request a delivery at maximum
c. A confirmed order should at-least have one shopping basket with one delivery request
d. A confirmed order can have only one shopping basket with only one delivery request
e. A delivery request should have at-least one shopping basket and it should be a confirmed order
f. A delivery request can have only one shopping basket and it can be a confirmed order

4. Data Dictionary to identify attributes and PK

No.	Entity	Attributes	Justification
01	W1761334_Member	1. W1761334_memberID {PK} 2. W1761334_memberName 3. W1761334_memberTelNum 4. W1761334_memberAddress	1. Uniquely identifies the member by the ID. 2. The name of the member is recorded. 3. Telephone number of the member is recorded. 4. Address of the member is recorded.
02	W1761334_Retail_Store	1. W1761334_storeID {PK} 2. W1761334_storeName	1. Uniquely identifies the store by the ID 2. The name of the store it represents is recorded.
03	W1761334_Shopping_Basket	1. W1761334_basketCode {PK} 2. W1761334_productsOrdered 3. W1761334_quantity	1. Uniquely identifies the shopping basket by the code 2. The products that were taken by the member is recorded. 3. The number of products taken by the member is recorded.
04	W1761334_Product	1. W1761334_productID {PK} 2. W1761334_productName 3. W1761334_productDescription 4. W1761334_additionalInformation 5. W1761334_price 6. W1761334_stockLevel	1. Uniquely identifies the products by the ID 2. The name of the product is recorded. 3. Brief description about the product is taken. 4. Any additional information regarding the product in noted. 5. The price of the product is recorded. 6. The stock level of the available products is recorded.
05	W1761334_Perishable_Product	1. W1761334_expiryDate	1. Expiry date of the perishable products are noted.

06	W1761334_Drink_Product	1. W1761334_sugarContent 2. W1761334_alcoholVolume	1. The sugar content available in the drink is recorded. 2. The alcohol volume available in the drink is recorded.
07	W1761334_Food_Product	1. W1761334_ingredients 2. W1761334_allergyInformation	1. The ingredients available in the food is recorded. 2. Any allergy information containing in the food is recorded.
08	W1761334_Delivery	1. W1761334_deliveryID {PK} 2. W1761334_deliveryTime 3. W1761334_deliveryDate 4. W1761334_deliveryStatus	1. Uniquely identifies the delivery by the ID 2. Time of the delivery is determined and recorded. 3. Date of the delivery is determined and recorded. 4. Status of the delivery such as pending, confirmed, in progress and delivered is recorded
09	W1761334_Payment	1. W1761334_paymentID {PK} 2. W1761334_nameOfPayee 3. W1761334_amount	1. Uniquely identifies the payment by the ID 2. The name of the payee is recorded. 3. The amount that should be paid to continue the order is recorded.
10	W1761334_Card_Payment	1. W1761334_securityCode	1. The security code of the card is taken.
11	W1761334_Mobile_Payment	1. W1761334_mobileWalletCode	1. The code for the mobile wallet is taken.
12	W1761334_Confirmed_Order	1. W1761334_orderID {PK} 2. W1761334_orderWeight	1. Uniquely identifies the order by the ID 2. Weight of the order is recorded.
13	W1761334_Driver	1. W1761334_driverID {PK} 2. W1761334_driverName 3. W1761334_telNum 4. W1761334_collectionDate 5. W1761334_collectionTime 6. W1761334_collectionStatus	1. Uniquely identifies the driver by the ID 2. Name of the driver is recorded. 3. Telephone number of the driver is recorded.

			4. Date which the driver makes the collection is recorded. 5. Time which the driver makes the collection is recorded. 6. Status of the collection being done by the driver is recorded.
14	W1761334_Four_Wheel_Driver	1. W1761334_weightOfOrder 2. W1761334_quantityOfOrder 3. W1761334_typeOfVehicle	1. Weight of the order is recorded. 2. Quantity of the products in the order is recorded. 3. Type of the vehicle used by the driver (car or van) is recorded.
15	W1761334_Two_Wheel_Driver	1. W1761334_weightOfOrder 2. W1761334_quantityOfOrder 3. W1761334_typeOfVehicle	1. Weight of the order is recorded. 2. Quantity of the products in the order is recorded. 3. Type of the vehicle used by the driver (moped or bicycle) is recorded.

Assumptions taken during the creating the Conceptual Diagram (Part - A)

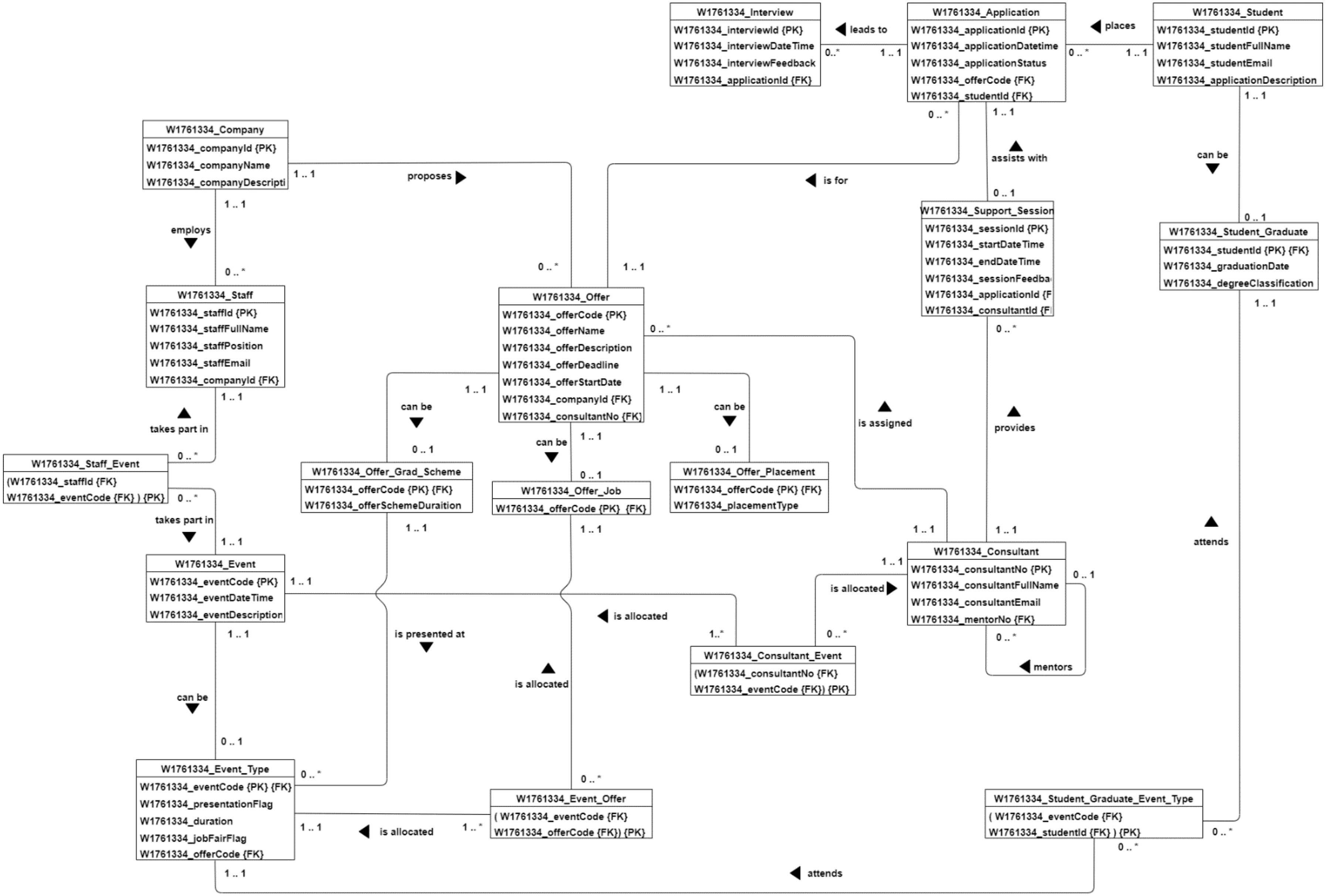
- The entities I have selected to draw the Conceptual diagram are →
    - W1761334_Member
    - W1761334_Retail_Store
    - W1761334_Shopping_Basket
    - W1761334_Product
    - W1761334_Perishable_Product
    - W1761334_Drink_Product
    - W1761334_Food_Product
    - W1761334_Delivery
    - W1761334_Payment
    - W1761334_Card_Payment
    - W1761334_Mobile_Payment
    - W1761334_Confirmed_Order
    - W1761334_Driver
    - W1761334_Four_Wheel_Driver
    - W1761334_Two_Wheel_Driver

- **"W1761334_Member"** is entity for the members who join to the grocery service. They are the ones who signed up for this service. The primary key for this is the member ID which can uniquely identify each registered member.
- **"W1761334_Retail_Store"** is the entity to keep records of the stores in the service. Store ID is the attribute that uniquely identifies each store.
- **"W1761334_Shopping_Basket"** is the entity to store records about the shopping basket created by the member for each store. Basket code is used to uniquely identify each basket separately.
- **"W1761334_Product"** is the entity taken to take down records of all sorts of products in the store. Product ID is the attribute used to identify each product.
- **"W1761334_Perishable_Product"** is used to store details about the products which are perishable.
- **"W1761334_Drink_Product"** is used to store records of the drink products particularly.
- **"W1761334_Food_Product"** is used to store records of the food products particularly.
- **"W1761334_Delivery"** is used to store records of the delivery information. Delivery is requested by the member after adding the products to the shopping basket and confirming their order. The delivery ID is used to uniquely identify each delivery.
- **"W1761334_Payment"** is used to store records of payment made for the confirmed orders. Payment ID is used to identify each payment plan uniquely.

- **"W1761334_Card_Payment"** is used to store any payments made using cards particularly.
- **"W1761334_Mobile_Payment"** is used to store any payments made using mobile particularly.
- **"W1761334_Confirmed_Order"** is used to store details about the orders that are confirmed. Order ID is used to identify each order separately.
- **"W1761334_Driver"** is used to store details about the driver who delivers the orders. Driver ID is used to identify each driver uniquely.
- **"W1761334_Four_Wheel_Driver"** is used to store details about the drivers who drive four-wheel vehicle.
- **"W1761334_Two_Wheel_Driver"** is used to store details about the drivers who drive two-wheel vehicle.

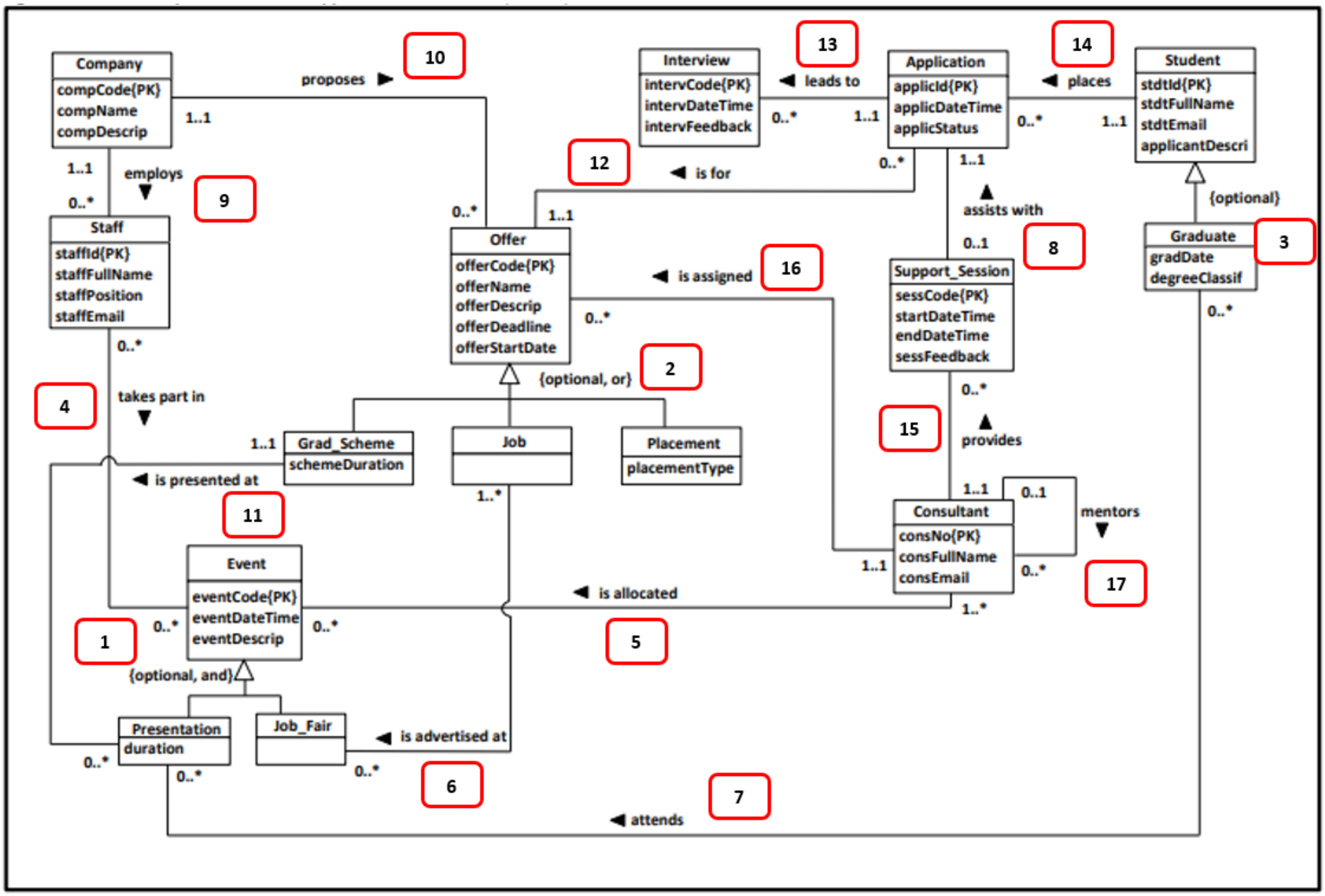
- Members who have registered for this service are allowed to visit any retail store according to their requirements. In-order to purchase the products, the members should create their own shopping basket for each store separately. A member is allowed to make multiple shopping baskets. A member can visit the stores to check about the products too. It is not a must for the members to create a shopping basket and a member can visit the stores of if necessary.
- Retail stores has products. Products can be categorized to many ways. According to the scenario, I have taken only the perishable products. Therefore, the products are specialized to perishable products. There can be food and drink products in the store. So, the perishable products are specialized down further to food products and drink products.
- A confirmed order can have many products in it. Since it's a conformed order, there should at-least be one product in it. The driver delivers a particular order to the relevant member. Each member will receive their relevant order. The drivers collect the order selects the vehicle according to the weight. If the weight is high or if the if it has a great weight, the driver will deliver it using a four-wheel vehicle. Else, the driver would deliver using a two-wheel vehicle. A driver is capable of driving both two-wheel as well as four-wheel vehicles.
- When the shopping basket is confirmed by the member, the member then requests for a delivery to be done. For every confirmed order, there should be separate delivery requests made. When a delivery request is sent, a compulsory payment should be done for the particular request. Payments can be done using either by card or the mobile.
- Driver is the one who collects the order and deliver it to the relevant member accordingly. So, the driver is the one who records the details about the collection. The collection date, time and status are marked by the driver when collecting the order. After collecting the order, the driver selects the type of vehicle to make the delivery done. If the weight is high or if the if it has a great weight, the driver will deliver it using a four-wheel vehicle. Else, the driver would deliver using a two-wheel vehicle. A driver can be capable of driving both two-wheel as well as four-wheel vehicles.

5. Logical ERD



6. Explanation of the conversion

- The given conceptual diagram was marked according to the rules given and mentioned to convert a conceptual diagram to a logical diagram.
- The relationships were numbered in the appropriate order. 1st the disruptive relationships were considered. Here, all the generalized entities are converted to logical ERD. There are four different constraints divided in this generalization section. {optional, or}, {mandatory, or}, {optional, and}, {mandatory, and} are the four constraints followed here. When converting entities with "and" constraints, there should be an additional attribute as "entityFlag". Flag is used to differentiate between records of previous sub-entities.
- The order I used to convert is shown in the following diagram.



The below discussion is done according to the above numbered order

- The **"W1761334_Event"** and its specialized entities are converted 1st in my aspect. Since it is an {optional, and} relationship, I merged the two sub entities as "**W1761334_Event_Type"**. There are two flags in this entities in-order to differentiate between the records. It ends up as a **[1..1]** relationship where the participation of **"W1761334_Event"** in **"W1761334_Event_Type"** is **0** because it is optional.
- The **"W1761334_Offer"** entity and its specialized entities are converted next. This relationship has {optional, or} relationship. Therefore, the 3 sub entities are kept separately. The **"W1761334_offerCode"** is the primary key in the **"W1761334_Offer"** entity. The sub-entities are **"W1761334_Offer_Grad_Scheme", "W1761334_Offer_Job" & "W1761334_Offer_Placement"**. The same attribute becomes the foreign key in the three sub entities. Since its an optional relationship, the participation of the super entity in the sub entity is **0**.
- Afterwards, in the specialization of the **"W1761334_Student"** entity, it has only one sub entity. Thereby, it has only {optional} as a constraint. So, by taking it either {optional, and} or as {optional, or}, it will produce the same output. I have done the conversion by considering the {optional, or} method.
- The relationship taken in the above three specialization process are all **"can be"**. The parent table receives **[1..1]** whereas the child table receives **[0..1]** multiplicities. The primary key of the parent table is added to the child table as the foreign key.
- After the disruptive relationship, we should consider about the complex relationship. After the generalization is converted to logical, relationships having **"One to One – Mandatory on both sides"** should be converted. After this conversion, **"Ternary relationships"** should be converted. In our scenario, both these relationships are not available. Therefore, the next relationship to be focused is, **"Many to Many relationships"**. The parent table receives the multiplicity as **[1..1]** In the given scenario, there are four Many-to-Many relationships.
- In the relationship between **"W1761334_Staff"** and **"W1761334_Event"**, an additional table in the name of **"W1761334_Staff_Event"** gets created. This new table becomes the child table whereas the existing table remains as the parent table of the relationship. The child table receives the opposite multiplicities of the previously existing entities. That is **[0..*]**.
- The **"W1761334_Consultant"** and **"W1761334_Event"** entity has a Many-to-Many relationship. Therefore, an additional entity as **"W1761334_Consultant_Event"** is created additionally. This becomes the child table whereas the already existing tables in this relationship remains as the parent table. The multiplicities near child table which is connecting to **"W1761334_Consultant"** receives [0..*] and the table connecting to **"W1761334_Event"** receives [1..*].
- The **"W1761334_Offer_Job"** and **"W1761334_Event_Type"** have a Many-to-Many relationship. Therefore, an additional table gets created and I have taken it

as **“W1761334_Event_Offer”**. The multiplicity near the child table in direction to **“W1761334_Offer_Job”** table is [0..*] and the other side is [1..*].

- The **“W1761334_Student_Graduate”** and **“W1761334_Event_Type”** have a Many-to-Many relationship. Therefore, an additional table gets created and I have taken it as **“W1761334_Student_Graduate_Event_Type”**. The multiplicity near the child table in both direction is [0..*]. Both relationship names are taken as “attends”.
- All the additional tables created are compound keys. This was chosen because no any attributes seem to be repeating in the table. Thereby, no composite key is added.
- The next relationship structure is “Simple relationships”. First, we consider the One-to-One optional on one side and both sides. **“W1761334_Support_Session”** and **“W1761334_Application”**. The primary key of the parent table is taken as the foreign key in the child table. There will be no additional table created or no any changes in the multiplicities.
- Under the “Simple relationships” the One-to-Many relationship is also considered.
  - **“W1761334_Company”** and **“W1761334_Staff”**
  - **“W1761334_Company”** and **“W1761334_Offer”**
  - **“W1761334_Offer_Grad_Scheme”** and **“W1761334_Event_Type”**
  - **“W1761334_Offer”** and **“W1761334_Application”**
  - **“W1761334_Application”** and **“W1761334_Interview”**
  - **“W1761334_ Student”** and **“W1761334_ Application”**
  - **“W1761334_Consultant”** and **“W1761334_Support_Session”**
  - **“W1761334_Consultant”** and **“W1761334_Offer”**

  These relationships all have One-to-Many relationships. The primary key of the parent table is taken as the foreign key in the child table. Like as Many-to-Many relationships, there will not be additional tables created. The multiplicities remain the same as in conceptual.

  - **“W1761334_ Consultant”** and **“W1761334_ Consultant”**

  This is a unary relationship with a relationship of One-To-Many. We don’t create an additional table for this because of data redundancy. The same data will be multiplied again in a different table. Therefore, a foreign key is enabled in the same table as **“W1761334_mentorNo”**. It links with the **“W1761334_consultantNo”**, the primary key of the same table.

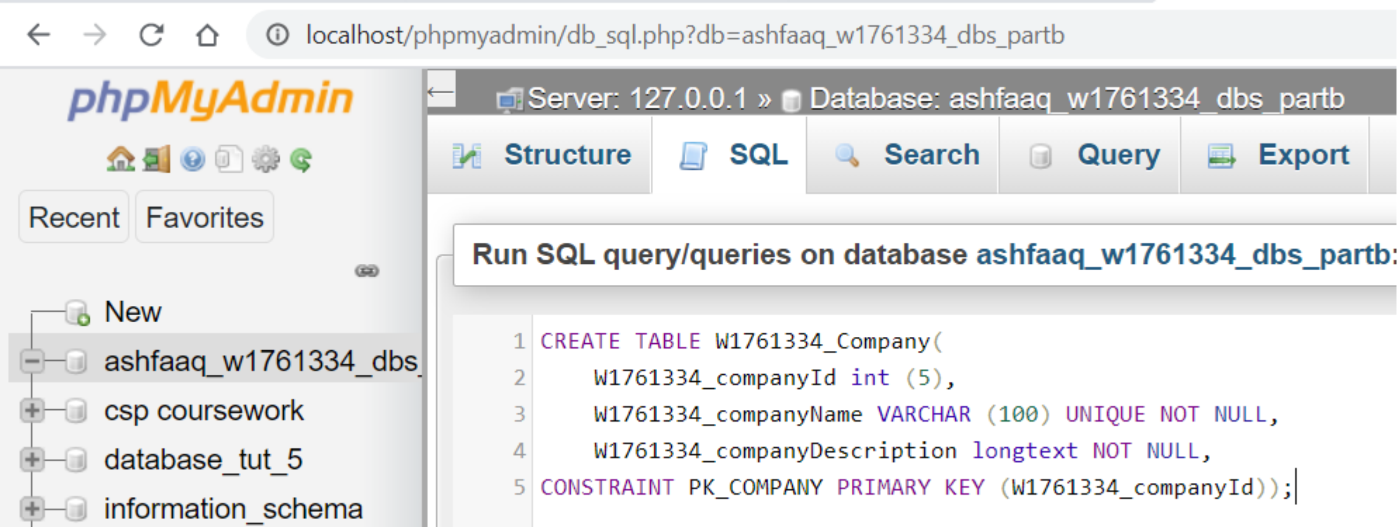
7. Create and Insert

7.1. Creating tables

7.1.1. W1761334_Company table

```
CREATE TABLE W1761334_Company(
    W1761334_companyId int (5),
    W1761334_companyName VARCHAR (100) UNIQUE NOT NULL,
    W1761334_companyDescription longtext NOT NULL,
CONSTRAINT PK_COMPANY PRIMARY KEY (W1761334_companyId));
```

W1761334_Company table – SQL code



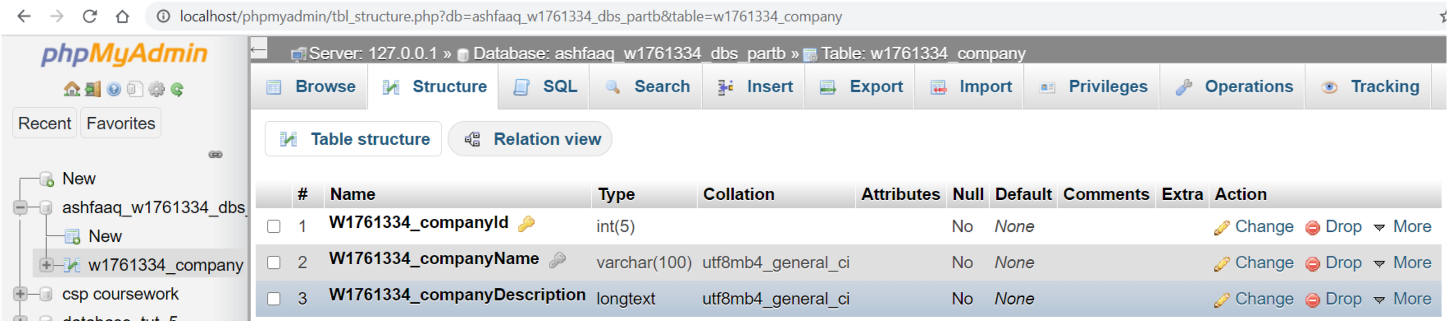
localhost/phpmyadmin/db_sql.php?db=ashfaaq_w1761334_dbs_partb

Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb

Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
CREATE TABLE W1761334_Company(
    W1761334_companyId int (5),
    W1761334_companyName VARCHAR (100) UNIQUE NOT NULL,
    W1761334_companyDescription longtext NOT NULL,
CONSTRAINT PK_COMPANY PRIMARY KEY (W1761334_companyId));
```

W1761334_Company table – Output



localhost/phpmyadmin/tbl_structure.php?db=ashfaaq_w1761334_dbs_partb&table=w1761334_company

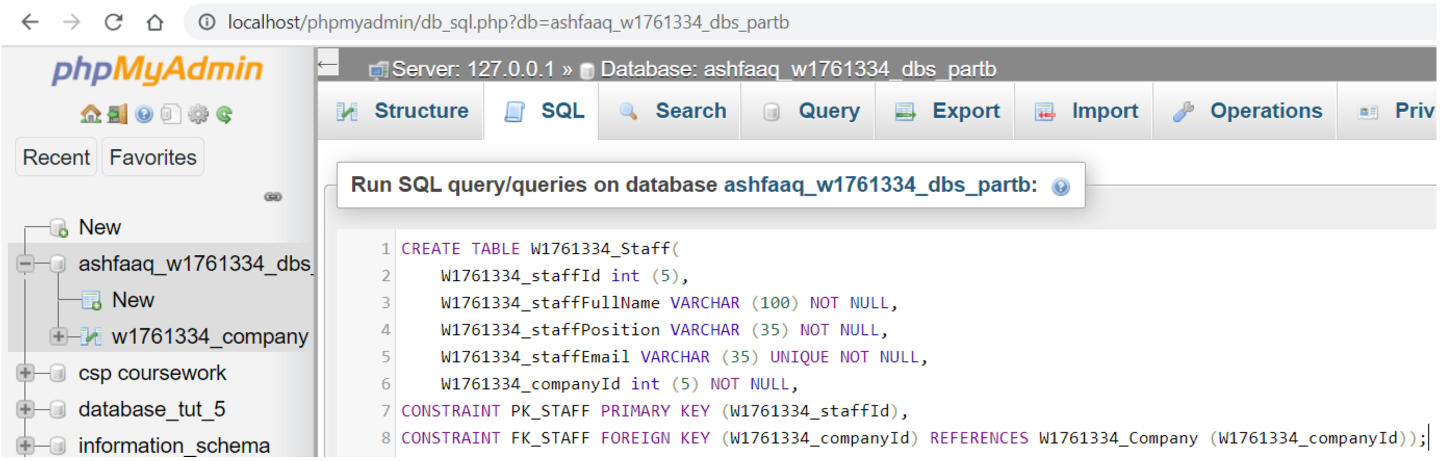
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb » Table: w1761334_company

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	W1761334_companyId	int(5)			No	None			Change Drop More
□	2	W1761334_companyName	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
□	3	W1761334_companyDescription	longtext	utf8mb4_general_ci		No	None			Change Drop More

7.1.2. **W1761334_Staff table**

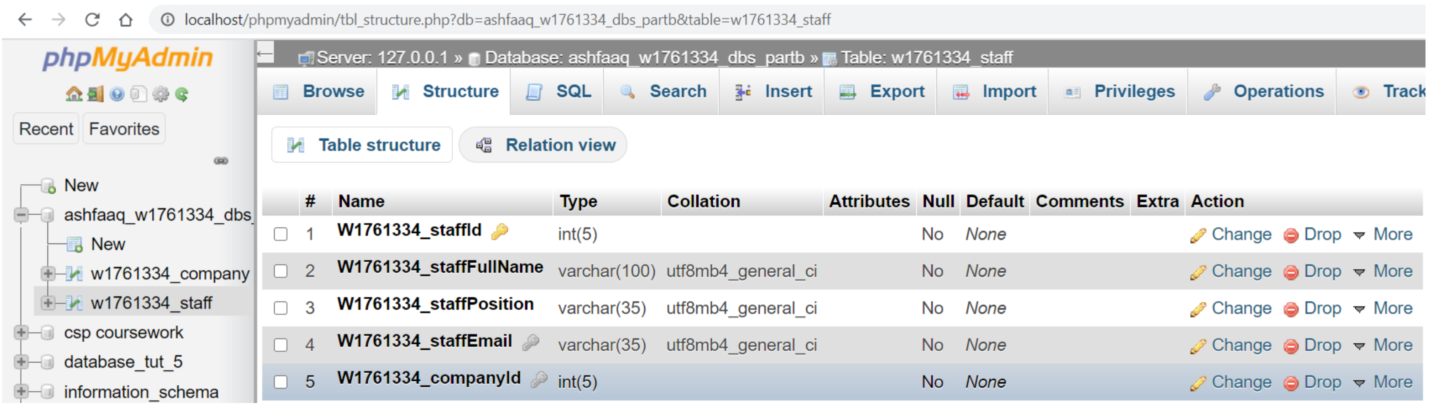
```
CREATE TABLE W1761334_Staff(
    W1761334_staffId int (5),
    W1761334_staffFullName VARCHAR (100) NOT NULL,
    W1761334_staffPosition VARCHAR (35) NOT NULL,
    W1761334_staffEmail VARCHAR (35) UNIQUE NOT NULL,
    W1761334_companyId int (5) NOT NULL,
CONSTRAINT PK_STAFF PRIMARY KEY (W1761334_staffId),
CONSTRAINT FK_STAFF FOREIGN KEY (W1761334_companyId) REFERENCES
W1761334_Company (W1761334_companyId));
```

W1761334_Staff table – SQL code


localhost/phpmyadmin/db_sql.php?db=ashfaaq_w1761334_dbs_partb
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_
New
w1761334_company
csp coursework
database_tut_5
information_schema
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb
Structure
SQL
Search
Query
Export
Import
Operations
Priv
Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
CREATE TABLE W1761334_Staff(
    W1761334_staffId int (5),
    W1761334_staffFullName VARCHAR (100) NOT NULL,
    W1761334_staffPosition VARCHAR (35) NOT NULL,
    W1761334_staffEmail VARCHAR (35) UNIQUE NOT NULL,
    W1761334_companyId int (5) NOT NULL,
CONSTRAINT PK_STAFF PRIMARY KEY (W1761334_staffId),
CONSTRAINT FK_STAFF FOREIGN KEY (W1761334_companyId) REFERENCES W1761334_Company (W1761334_companyId));
```

W1761334_Staff table –Output

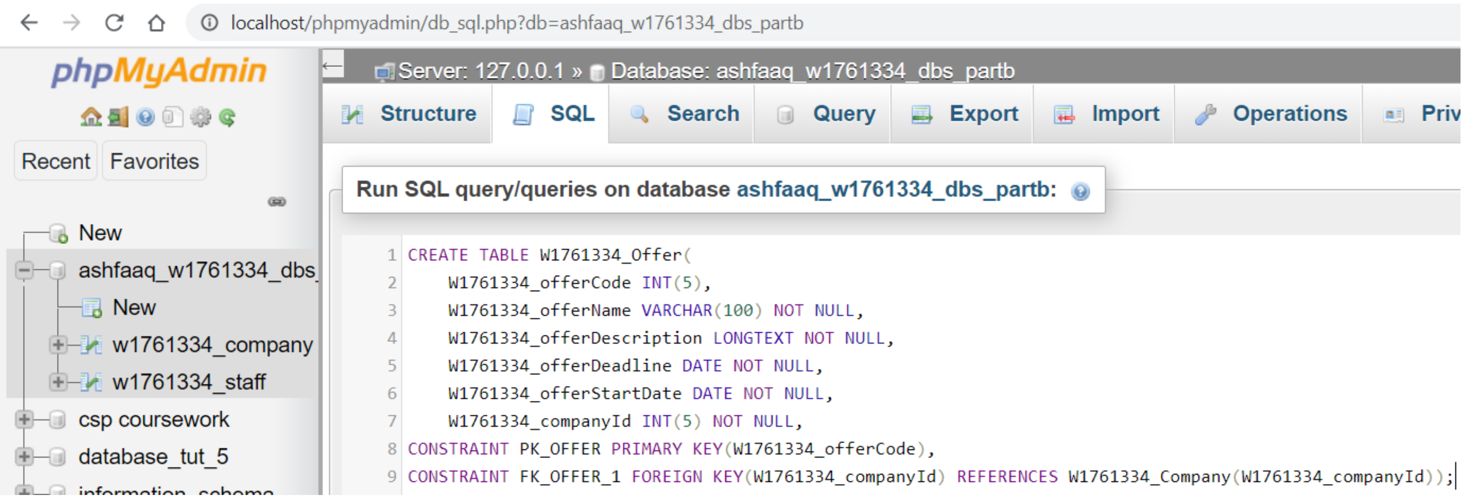


	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	**W1761334_staffId**	int(5)			No	*None*			Change Drop More
□	2	**W1761334_staffFullName**	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
□	3	**W1761334_staffPosition**	varchar(35)	utf8mb4_general_ci		No	*None*			Change Drop More
□	4	**W1761334_staffEmail**	varchar(35)	utf8mb4_general_ci		No	*None*			Change Drop More
□	5	**W1761334_companyId**	int(5)			No	*None*			Change Drop More

7.1.3. **W1761334_Offer table**

```
CREATE TABLE W1761334_Offer(
   W1761334_offerCode INT(5),
   W1761334_offerName VARCHAR(100) NOT NULL,
   W1761334_offerDescription LONGTEXT NOT NULL,
   W1761334_offerDeadline DATE NOT NULL,
   W1761334_offerStartDate DATE NOT NULL,
   W1761334_companyId INT(5) NOT NULL,
CONSTRAINT PK_OFFER PRIMARY KEY(W1761334_offerCode),
CONSTRAINT FK_OFFER_1 FOREIGN KEY(W1761334_companyId) REFERENCES
W1761334_Company(W1761334_companyId));
```

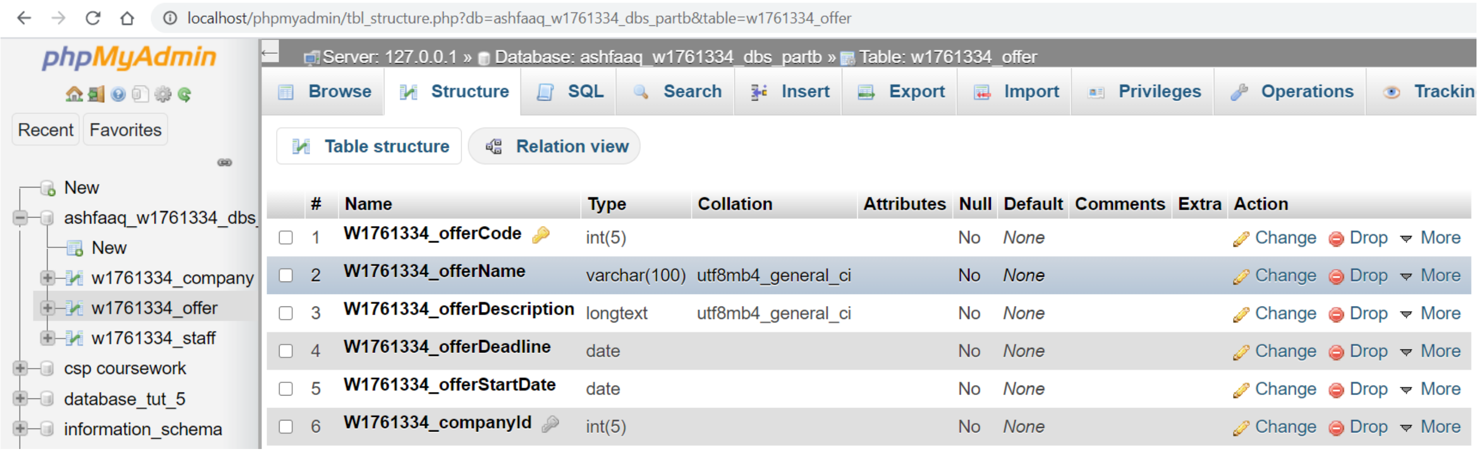
<u>W1761334_Offer table – SQL code</u>



Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
CREATE TABLE W1761334_Offer(
    W1761334_offerCode INT(5),
    W1761334_offerName VARCHAR(100) NOT NULL,
    W1761334_offerDescription LONGTEXT NOT NULL,
    W1761334_offerDeadline DATE NOT NULL,
    W1761334_offerStartDate DATE NOT NULL,
    W1761334_companyId INT(5) NOT NULL,
CONSTRAINT PK_OFFER PRIMARY KEY(W1761334_offerCode),
CONSTRAINT FK_OFFER_1 FOREIGN KEY(W1761334_companyId) REFERENCES W1761334_Company(W1761334_companyId));
```

W1761334_Offer table –Output



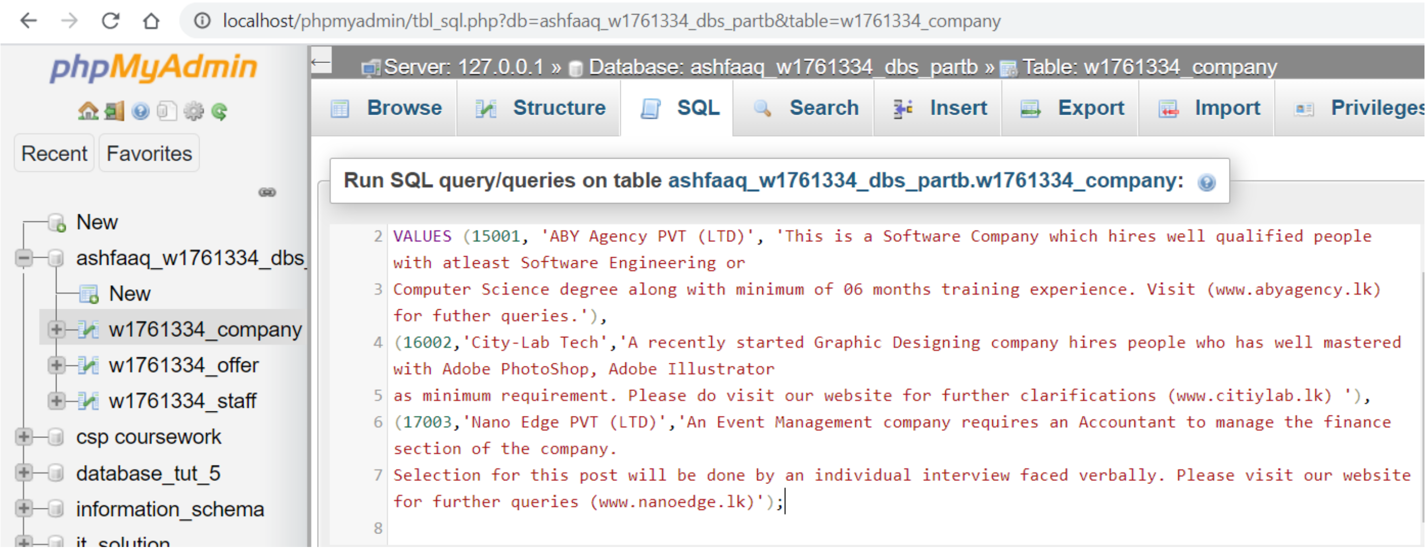
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	W1761334_offerCode	int(5)			No	*None*			Change Drop More
□	2	W1761334_offerName	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
□	3	W1761334_offerDescription	longtext	utf8mb4_general_ci		No	*None*			Change Drop More
□	4	W1761334_offerDeadline	date			No	*None*			Change Drop More
□	5	W1761334_offerStartDate	date			No	*None*			Change Drop More
□	6	W1761334_companyId	int(5)			No	*None*			Change Drop More

7.2. Inserting data to tables

7.2.1. W1761334_Company table

INSERT INTO w1761334_Company(W1761334_companyId,
W1761334_companyName, W1761334_companyDescription)
VALUES (15001, 'ABY Agency PVT (LTD)', 'This is a Software Company which hires
well qualified people with atleast Software Engineering or
Computer Science degree along with minimum of 06 months training experience. Visit
(www.abyagency.lk) for futher queries.'),
(16002,'City-Lab Tech','A recently started Graphic Designing company hires people
who has well mastered with Adobe PhotoShop, Adobe Illustrator
as minimum requirement. Please do visit our website for further clarifications
(www.citiylab.lk) '),
(17003,'Nano Edge PVT (LTD)','An Event Management company requires an
Accountant to manage the finance section of the company.
Selection for this post will be done by an individual interview faced verbally. Please
visit our website for further queries (www.nanoedge.lk)');

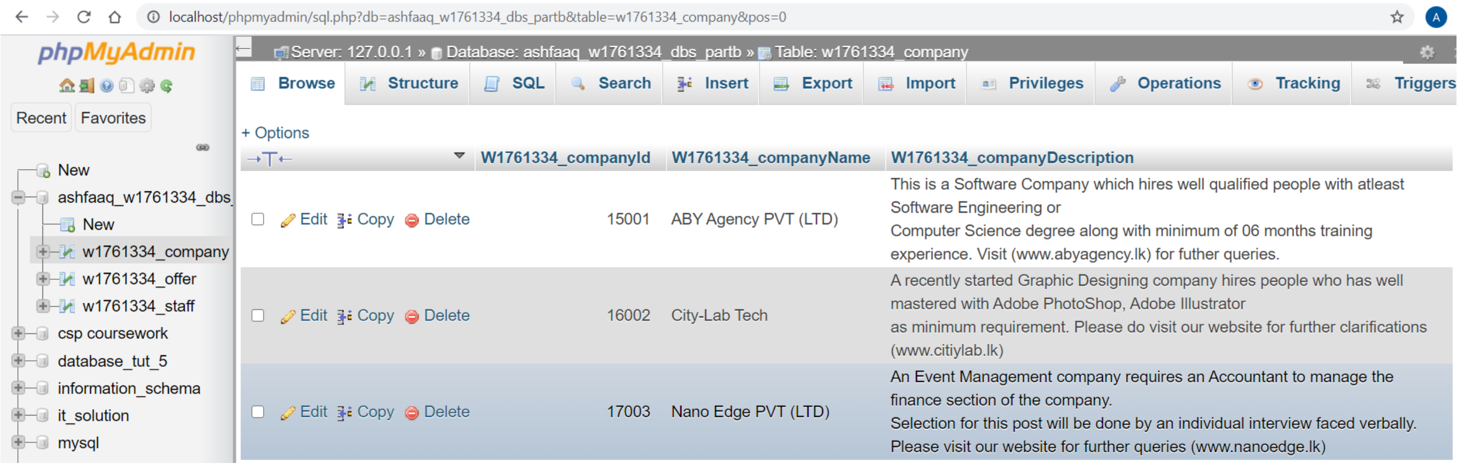
W1761334_Company table – SQL code



Run SQL query/queries on table ashfaaq_w1761334_dbs_partb.w1761334_company:

```
VALUES (15001, 'ABY Agency PVT (LTD)', 'This is a Software Company which hires well qualified people with atleast Software Engineering or
Computer Science degree along with minimum of 06 months training experience. Visit (www.abyagency.lk) for futher queries.'),
(16002,'City-Lab Tech','A recently started Graphic Designing company hires people who has well mastered with Adobe PhotoShop, Adobe Illustrator
as minimum requirement. Please do visit our website for further clarifications (www.citiylab.lk) '),
(17003,'Nano Edge PVT (LTD)','An Event Management company requires an Accountant to manage the finance section of the company.
Selection for this post will be done by an individual interview faced verbally. Please visit our website for further queries (www.nanoedge.lk)');
```

W1761334_Company table –Output

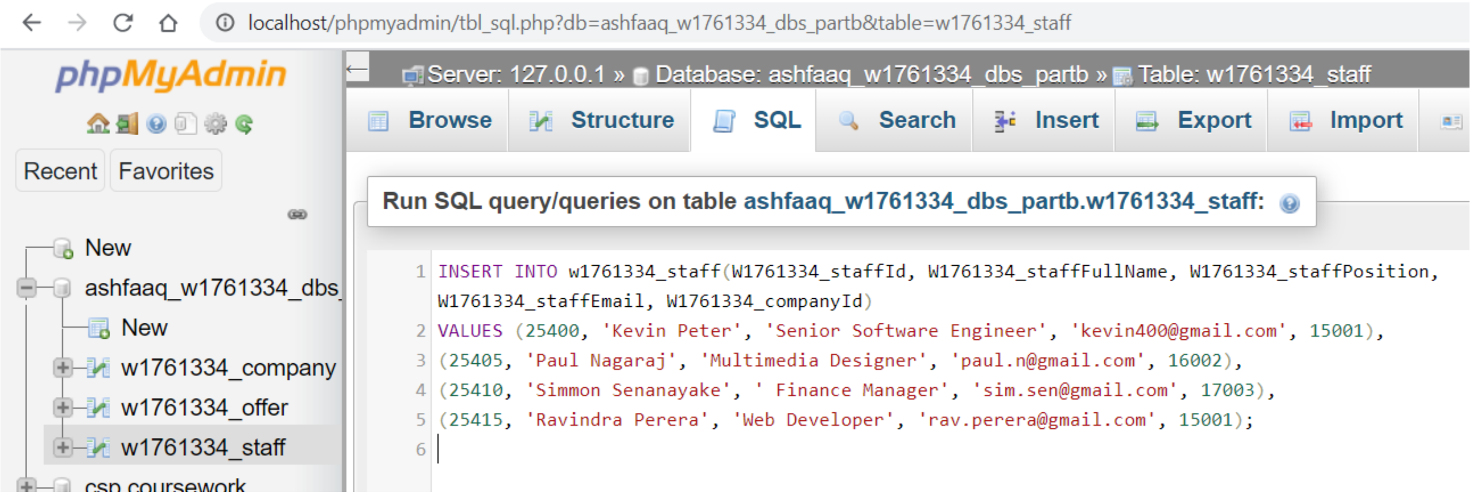


	W1761334_companyId	W1761334_companyName	W1761334_companyDescription
□ Edit Copy Delete	15001	ABY Agency PVT (LTD)	This is a Software Company which hires well qualified people with atleast Software Engineering or Computer Science degree along with minimum of 06 months training experience. Visit (www.abyagency.lk) for futher queries.
□ Edit Copy Delete	16002	City-Lab Tech	A recently started Graphic Designing company hires people who has well mastered with Adobe PhotoShop, Adobe Illustrator as minimum requirement. Please do visit our website for further clarifications (www.citiylab.lk)
□ Edit Copy Delete	17003	Nano Edge PVT (LTD)	An Event Management company requires an Accountant to manage the finance section of the company. Selection for this post will be done by an individual interview faced verbally. Please visit our website for further queries (www.nanoedge.lk)

7.2.2. **W1761334_Staff table**

INSERT INTO w1761334_staff(W1761334_staffId, W1761334_staffFullName, W1761334_staffPosition, W1761334_staffEmail, W1761334_companyId)
VALUES (25400, 'Kevin Peter', 'Senior Software Engineer', 'kevin400@gmail.com', 15001),
(25405, 'Paul Nagaraj', 'Multimedia Designer', 'paul.n@gmail.com', 16002),
(25410, 'Simmon Senanayake', ' Finance Manager', 'sim.sen@gmail.com', 17003),
(25415, 'Ravindra Perera', 'Web Developer', 'rav.perera@gmail.com', 15001);

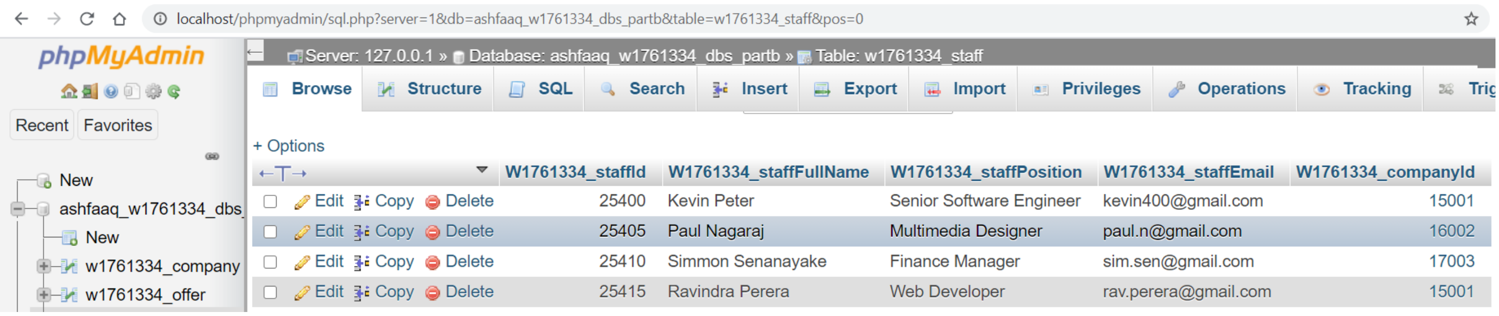
W1761334_Staff table – SQL code


localhost/phpmyadmin/tbl_sql.php?db=ashfaaq_w1761334_dbs_partb&table=w1761334_staff
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_
New
w1761334_company
w1761334_offer
w1761334_staff
csp coursework
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb » Table: w1761334_staff
Browse
Structure
SQL
Search
Insert
Export
Import

Run SQL query/queries on table ashfaaq_w1761334_dbs_partb.w1761334_staff:

```
INSERT INTO w1761334_staff(W1761334_staffId, W1761334_staffFullName, W1761334_staffPosition,
W1761334_staffEmail, W1761334_companyId)
VALUES (25400, 'Kevin Peter', 'Senior Software Engineer', 'kevin400@gmail.com', 15001),
(25405, 'Paul Nagaraj', 'Multimedia Designer', 'paul.n@gmail.com', 16002),
(25410, 'Simmon Senanayake', ' Finance Manager', 'sim.sen@gmail.com', 17003),
(25415, 'Ravindra Perera', 'Web Developer', 'rav.perera@gmail.com', 15001);
```

W1761334_Staff table – Output

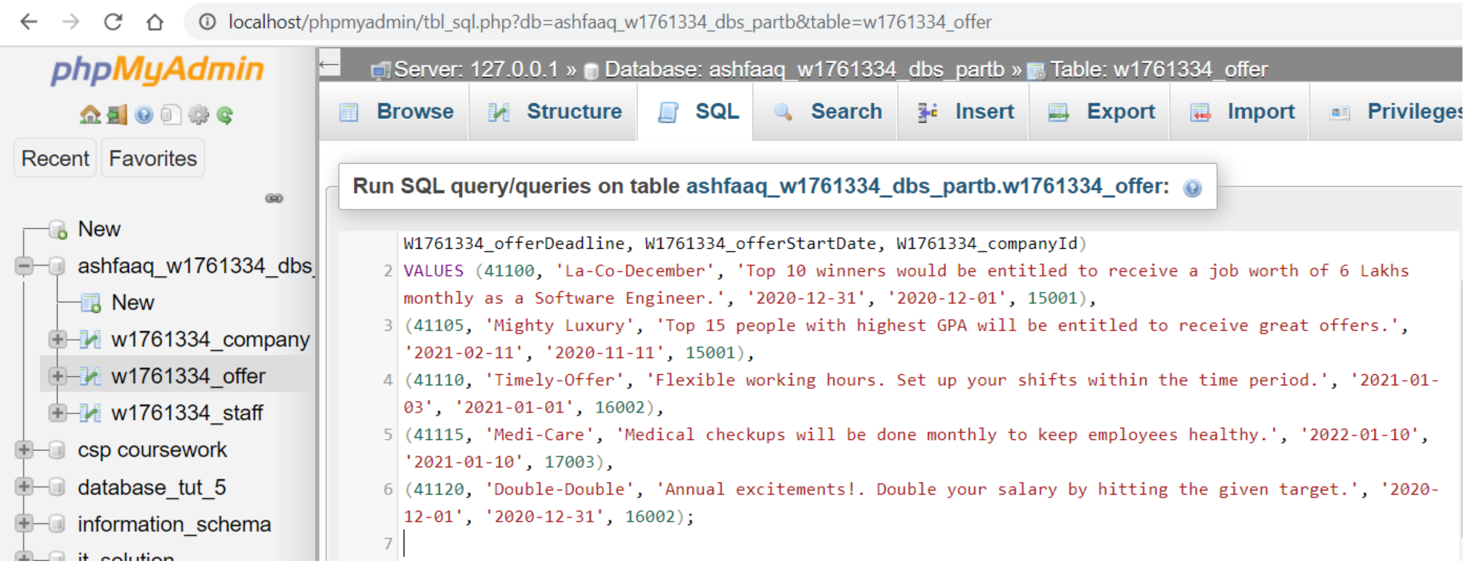

localhost/phpmyadmin/sql.php?server=1&db=ashfaaq_w1761334_dbs_partb&table=w1761334_staff&pos=0
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_
New
w1761334_company
w1761334_offer
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb » Table: w1761334_staff
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Trig
+ Options

	W1761334_staffId	W1761334_staffFullName	W1761334_staffPosition	W1761334_staffEmail	W1761334_companyId
□ Edit Copy Delete	25400	Kevin Peter	Senior Software Engineer	kevin400@gmail.com	15001
□ Edit Copy Delete	25405	Paul Nagaraj	Multimedia Designer	paul.n@gmail.com	16002
□ Edit Copy Delete	25410	Simmon Senanayake	Finance Manager	sim.sen@gmail.com	17003
□ Edit Copy Delete	25415	Ravindra Perera	Web Developer	rav.perera@gmail.com	15001

7.2.3. **W1761334_Offer table**

```
INSERT INTO w1761334_offer(W1761334_offerCode, W1761334_offerName,
W1761334_offerDescription, W1761334_offerDeadline, W1761334_offerStartDate,
W1761334_companyId)
VALUES (41100, 'La-Co-December', 'Top 10 winners would be entitled to receive a job
worth of 6 Lakhs monthly as a Software Engineer.', '2020-12-31', '2020-12-01',
15001),
(41105, 'Mighty Luxury', 'Top 15 people with highest GPA will be entitled to receive
great offers.', '2021-02-11', '2020-11-11', 15001),
(41110, 'Timely-Offer', 'Flexible working hours. Set up your shifts within the time
period.', '2021-01-03', '2021-01-01', 16002),
(41115, 'Medi-Care', 'Medical checkups will be done monthly to keep employees
healthy.', '2022-01-10', '2021-01-10', 17003),
(41120, 'Double-Double', 'Annual excitements!. Double your salary by hitting the given
target.', '2020-12-01', '2020-12-31', 16002);
```

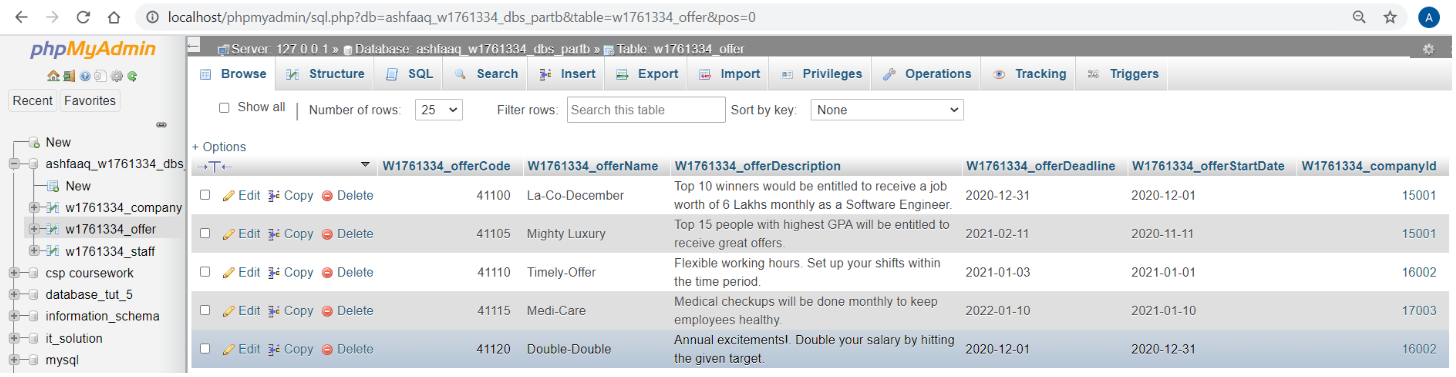
W1761334_Offer table – SQL code



Run SQL query/queries on table ashfaaq_w1761334_dbs_partb.w1761334_offer:

```
W1761334_offerDeadline, W1761334_offerStartDate, W1761334_companyId)
VALUES (41100, 'La-Co-December', 'Top 10 winners would be entitled to receive a job worth of 6 Lakhs monthly as a Software Engineer.', '2020-12-31', '2020-12-01', 15001),
(41105, 'Mighty Luxury', 'Top 15 people with highest GPA will be entitled to receive great offers.', '2021-02-11', '2020-11-11', 15001),
(41110, 'Timely-Offer', 'Flexible working hours. Set up your shifts within the time period.', '2021-01-03', '2021-01-01', 16002),
(41115, 'Medi-Care', 'Medical checkups will be done monthly to keep employees healthy.', '2022-01-10', '2021-01-10', 17003),
(41120, 'Double-Double', 'Annual excitements!. Double your salary by hitting the given target.', '2020-12-01', '2020-12-31', 16002);
```

W1761334_Offer table –Output



□ Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

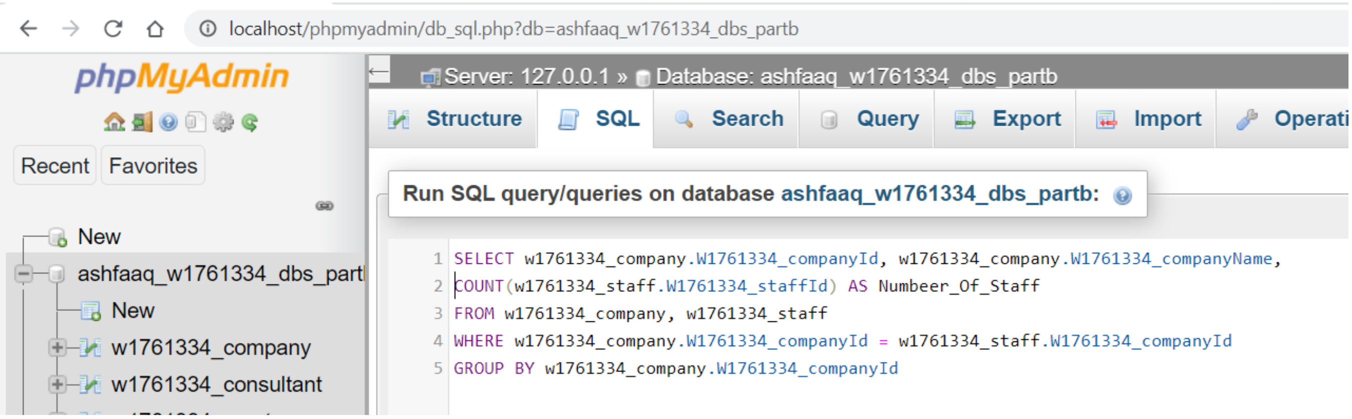
	W1761334_offerCode	W1761334_offerName	W1761334_offerDescription	W1761334_offerDeadline	W1761334_offerStartDate	W1761334_companyId
□ Edit Copy Delete	41100	La-Co-December	Top 10 winners would be entitled to receive a job worth of 6 Lakhs monthly as a Software Engineer.	2020-12-31	2020-12-01	15001
□ Edit Copy Delete	41105	Mighty Luxury	Top 15 people with highest GPA will be entitled to receive great offers.	2021-02-11	2020-11-11	15001
□ Edit Copy Delete	41110	Timely-Offer	Flexible working hours. Set up your shifts within the time period.	2021-01-03	2021-01-01	16002
□ Edit Copy Delete	41115	Medi-Care	Medical checkups will be done monthly to keep employees healthy.	2022-01-10	2021-01-10	17003
□ Edit Copy Delete	41120	Double-Double	Annual excitements!. Double your salary by hitting the given target.	2020-12-01	2020-12-31	16002

8. **Select Query**

- To retrieve the number of staffs that each company employs

```
SELECT w1761334_company.W1761334_companyId,
w1761334_company.W1761334_companyName,
COUNT(w1761334_staff.W1761334_staffId) AS Numbeer_Of_Staff
FROM w1761334_company, w1761334_staff
WHERE w1761334_company.W1761334_companyId =
w1761334_staff.W1761334_companyId
GROUP BY w1761334_company.W1761334_companyId
```

Question 8 – SQL code

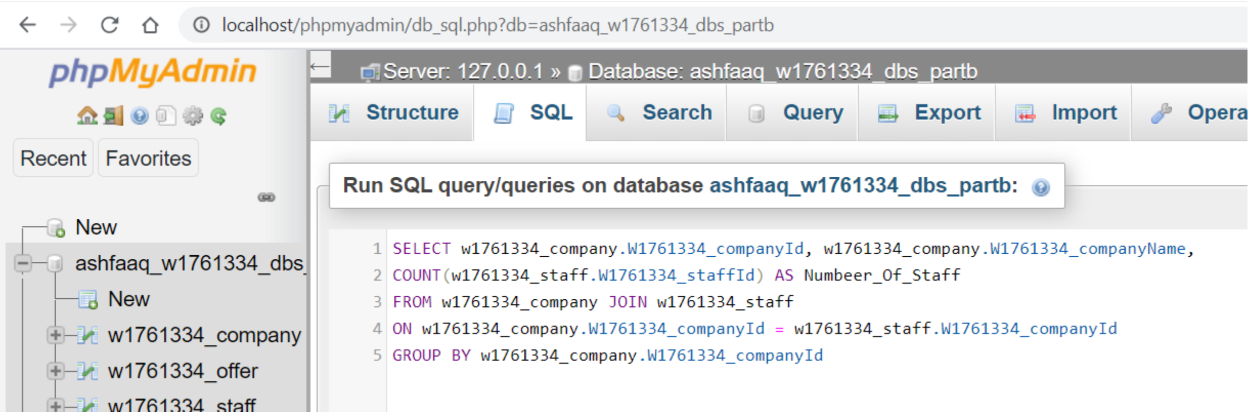

localhost/phpmyadmin/db_sql.php?db=ashfaaq_w1761334_dbs_partb
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_partl
New
w1761334_company
w1761334_consultant
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb
Structure
SQL
Search
Query
Export
Import
Operati

Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
SELECT w1761334_company.W1761334_companyId, w1761334_company.W1761334_companyName,
COUNT(w1761334_staff.W1761334_staffId) AS Numbeer_Of_Staff
FROM w1761334_company, w1761334_staff
WHERE w1761334_company.W1761334_companyId = w1761334_staff.W1761334_companyId
GROUP BY w1761334_company.W1761334_companyId
```

Question 8 – SQL code (Using JOINS)

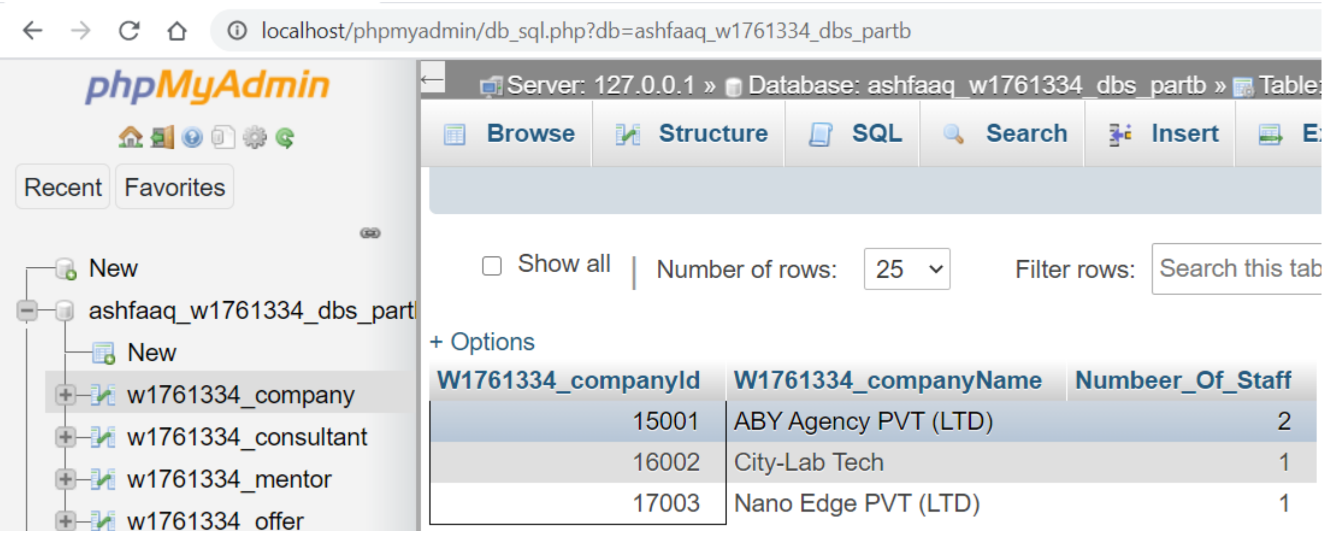
SELECT w1761334_company.W1761334_companyId,
w1761334_company.W1761334_companyName,
COUNT(w1761334_staff.W1761334_staffId) AS Numbeer_Of_Staff
FROM w1761334_company JOIN w1761334_staff
ON w1761334_company.W1761334_companyId =
w1761334_staff.W1761334_companyId
GROUP BY w1761334_company.W1761334_companyId



Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
SELECT w1761334_company.W1761334_companyId, w1761334_company.W1761334_companyName,
COUNT(w1761334_staff.W1761334_staffId) AS Numbeer_Of_Staff
FROM w1761334_company JOIN w1761334_staff
ON w1761334_company.W1761334_companyId = w1761334_staff.W1761334_companyId
GROUP BY w1761334_company.W1761334_companyId
```

Question 8 – Output


localhost/phpmyadmin/db_sql.php?db=ashfaaq_w1761334_dbs_partb
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_part
New
w1761334_company
w1761334_consultant
w1761334_mentor
w1761334_offer
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb » Table
Browse
Structure
SQL
Search
Insert
E
□ Show all
Number of rows: 25
Filter rows: Search this tab
+ Options

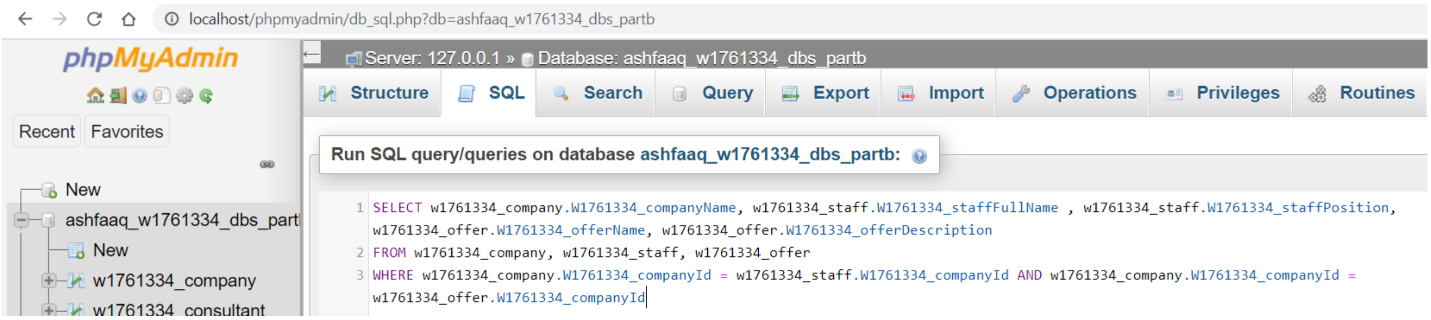
W1761334_companyId	W1761334_companyName	Numbeer_Of_Staff
15001	ABY Agency PVT (LTD)	2
16002	City-Lab Tech	1
17003	Nano Edge PVT (LTD)	1

9. Select Query

- To retrieve the offers proposed and the staffs employed along with their positions in a particular company

```
SELECT w1761334_company.W1761334_companyName,
w1761334_staff.W1761334_staffFullName ,
w1761334_staff.W1761334_staffPosition,
w1761334_offer.W1761334_offerName,
w1761334_offer.W1761334_offerDescription
FROM w1761334_company, w1761334_staff, w1761334_offer
WHERE w1761334_company.W1761334_companyId =
w1761334_staff.W1761334_companyId AND
w1761334_company.W1761334_companyId =
w1761334_offer.W1761334_companyId
```

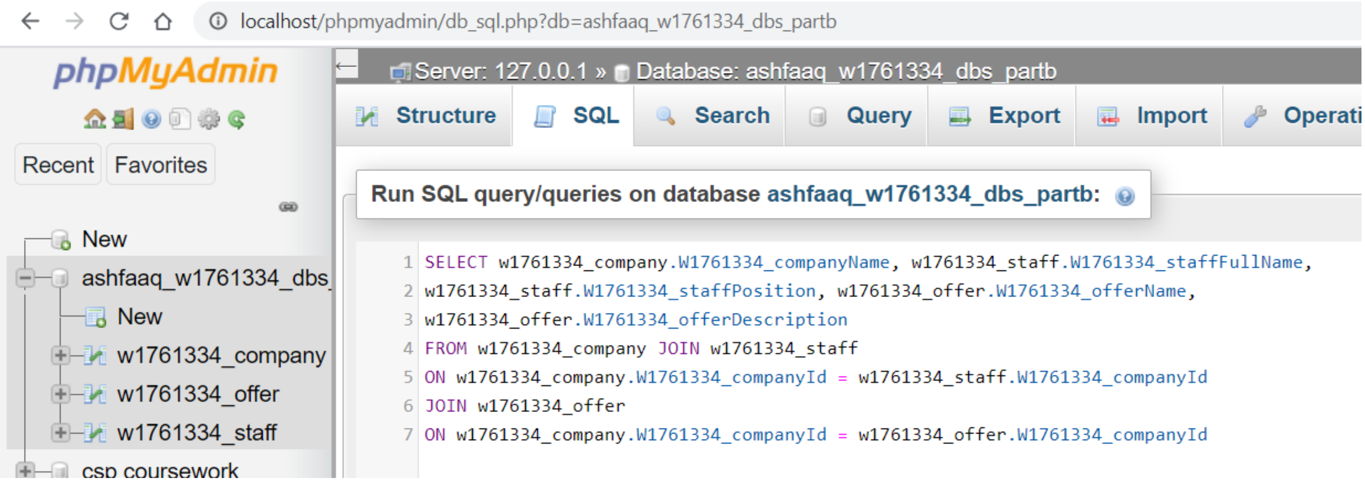
Question 9 – SQL code


localhost/phpmyadmin/db_sql.php?db=ashfaaq_w1761334_dbs_partb
phpMyAdmin
Recent
Favorites
New
ashfaaq_w1761334_dbs_part
New
w1761334_company
w1761334_consultant
Server: 127.0.0.1 » Database: ashfaaq_w1761334_dbs_partb
Structure
SQL
Search
Query
Export
Import
Operations
Privileges
Routines
Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
SELECT w1761334_company.W1761334_companyName, w1761334_staff.W1761334_staffFullName , w1761334_staff.W1761334_staffPosition,
w1761334_offer.W1761334_offerName, w1761334_offer.W1761334_offerDescription
FROM w1761334_company, w1761334_staff, w1761334_offer
WHERE w1761334_company.W1761334_companyId = w1761334_staff.W1761334_companyId AND w1761334_company.W1761334_companyId =
w1761334_offer.W1761334_companyId
```

Question 9 – SQL code (Using JOINS)

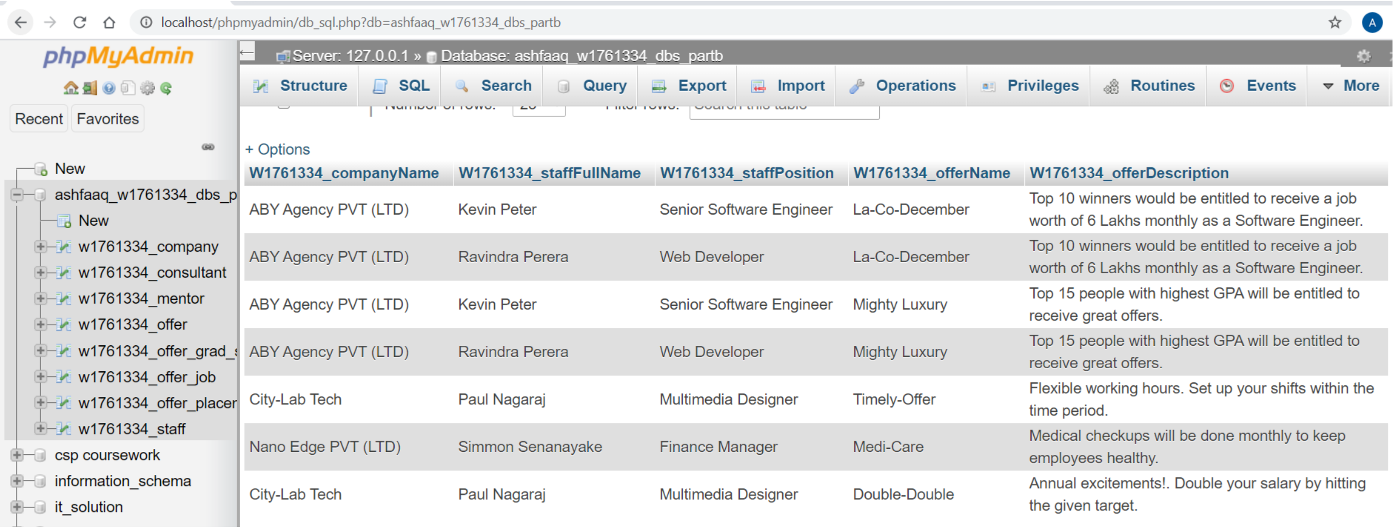
```
SELECT w1761334_company.W1761334_companyName,
w1761334_staff.W1761334_staffFullName,
w1761334_staff.W1761334_staffPosition, w1761334_offer.W1761334_offerName,
w1761334_offer.W1761334_offerDescription
FROM w1761334_company JOIN w1761334_staff
ON w1761334_company.W1761334_companyId =
w1761334_staff.W1761334_companyId
JOIN w1761334_offer
ON w1761334_company.W1761334_companyId =
w1761334_offer.W1761334_companyId
```



Run SQL query/queries on database ashfaaq_w1761334_dbs_partb:

```
SELECT w1761334_company.W1761334_companyName, w1761334_staff.W1761334_staffFullName,
w1761334_staff.W1761334_staffPosition, w1761334_offer.W1761334_offerName,
w1761334_offer.W1761334_offerDescription
FROM w1761334_company JOIN w1761334_staff
ON w1761334_company.W1761334_companyId = w1761334_staff.W1761334_companyId
JOIN w1761334_offer
ON w1761334_company.W1761334_companyId = w1761334_offer.W1761334_companyId
```

Question 9 – Output



W1761334_companyName	W1761334_staffFullName	W1761334_staffPosition	W1761334_offerName	W1761334_offerDescription
ABY Agency PVT (LTD)	Kevin Peter	Senior Software Engineer	La-Co-December	Top 10 winners would be entitled to receive a job worth of 6 Lakhs monthly as a Software Engineer.
ABY Agency PVT (LTD)	Ravindra Perera	Web Developer	La-Co-December	Top 10 winners would be entitled to receive a job worth of 6 Lakhs monthly as a Software Engineer.
ABY Agency PVT (LTD)	Kevin Peter	Senior Software Engineer	Mighty Luxury	Top 15 people with highest GPA will be entitled to receive great offers.
ABY Agency PVT (LTD)	Ravindra Perera	Web Developer	Mighty Luxury	Top 15 people with highest GPA will be entitled to receive great offers.
City-Lab Tech	Paul Nagaraj	Multimedia Designer	Timely-Offer	Flexible working hours. Set up your shifts within the time period.
Nano Edge PVT (LTD)	Simmon Senanayake	Finance Manager	Medi-Care	Medical checkups will be done monthly to keep employees healthy.
City-Lab Tech	Paul Nagaraj	Multimedia Designer	Double-Double	Annual excitements!. Double your salary by hitting the given target.