# CTIS259 Term Project

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# Hogwarts Ekspress’o Tables and Queries Report

## Tables from EER Diagram and their Report

CREATE TABLE CUSTOMER (

cust\_id number(10),

cust\_name varchar2(20) NOT NULL,

cust\_phone varchar2(20) NOT NULL,

cust\_email VARCHAR2(30),

CONSTRAINT CUSTOMER\_PK PRIMARY KEY(cust\_id) );

CREATE TABLE ORDERS (

orderdate date,

order\_num NUMBER(10),

orderid number(10),

total\_cost NUMBER(10),

custid number(10),

CONSTRAINT ORDER\_PK PRIMARY KEY(orderid),

CONSTRAINT ORDER\_FK FOREIGN KEY(custid) REFERENCES CUSTOMER(cust\_id) );

CREATE TABLE PRODUCT (

product\_name VARCHAR2(20),

product\_id number(10),

productorder number(20),

product\_amount NUMBER(10),

CONSTRAINT PRODUCT\_PK PRIMARY KEY(product\_id),

CONSTRAINT ORDER\_FK FOREIGN KEY(productorder) REFERENCES ORDERS(orderid) );

CREATE TABLE INGREDIENT (

ingredient\_id number(10),

ingredient\_name VARCHAR2(20),

ingredient\_amount number(10),

ingredient\_product number(10),

CONSTRAINT INGREDIENT\_PK PRIMARY KEY(ingredient\_id),

CONSTRAINT INGREDIENT\_FK FOREIGN KEY(ingredient\_product) REFERENCE PRODUCT(product\_id)

);

CREATE TABLE REWARDS (

reward\_id number(10),

reward\_type VARCHAR2(20),

total\_price number(20),

custrewardid number(10),

CONSTRAINT REWARD\_PK PRIMARY KEY(reward\_id),

CONSTRAINT REWARD\_FK FOREIGN KEY(custrewardid) REFERENCES CUSTOMER(cust\_id),

CONSTRAINT REWARD\_CHK CHECK(total\_price>200) );

Firstly, we create a Customer table and get information(attributes) such as customer name, customer phone number, and customer email. Also, we give and save each customer's specific Costumer ID to identify them with that ID. Furthermore, we set customer ID as a primary key of our table in order to use that with a relation between our Orders table (Orders entity) and reward table(Reward entity) according to our competitive advantages.

Secondly, we create a table for Orders when a customer chooses an order; we take and save orderdate, number of orders, totalcost, and orderid as a primary key for the table. We also have custid as a foreign key to connect the order and customer to each other. We don't need the order date ID because we can find the preference from that query, and it is not about an eco-friendly system.

Thirdly, each order consists of one or more products, so we create a Product table. We get data such as the product's name, the amount of product (for example, 5 kg of espresso), and the product order to set it as a foreign key to connect the order table and product table. Each product has a product id to be identified and used to check the product's id to be recyclable or not according to our eco-friendly system competitive advantage.

Fourthly, we create an Ingredient table for the ingredient of our products. Each ingredient has an ID, name, and specific amount. We provide a specific amount of ingredient to ensure that there will be the smallest amount of garbages. We have ingredient\_product(attribute) as a foreign key in the table to be connected to the product id so that we can provide the recyclable ingredients.

Lastly, we create the Reward table to save the information about our rewarding system, which is one of our competitive advantages. We get the total reward price, and each reward has a reward\_id to be specified and given to each winner. We get the custrewardid as a foreign key of the table to recognize the customers from the customer table who are eligible to take the award. We need reward\_type to identify the type of reward the winner will take (for example, it can be a Butterbeer Frappuccino). We don't need reward value; the number of rewards will not be stored in our data because, according to our story, each customer can only have one chance to have rewards in a day.

# Queries about Competitive Advantages Reports

## Eco-friendly System Quaries

SELECT p.product\_name, i.ingredient\_name, i.is\_recyclable

FROM product p

JOIN ingredient i ON p.product\_id = i.ingredient\_product;

* In the first query, we can determine whether our products with their corresponding ingredient are recyclable. We select from the table ingredient and product, which will be joined based on product ID (product\_id) and the ingredient's product ID (ingredient\_product we can see the data.

## Online Delivery Quaries

SELECT o.orderid, o.orderdate, p.product\_name

FROM orders o

JOIN product p ON p.productorder = o.orderid

WHERE o.custid = &custid;

* In the second query, To show the eco-friendly system's competitive advantage, In the second query using select a statement; by joining tables of products and orders; we can reach detailed information (the products of which the order consists) about orders of the specific customer(for example, customer ID 2421). We will reach the order ID from the orders table, the order date from the orders table, and the product name each order consists of from the product table.

## Rewarding System Quaries

SELECT cust\_name, reward\_type, total\_price

FROM reward, customer

WHERE custrewardid = cust\_id AND total\_price > 200;

* In the third query, we can reach the information on customer rewards (the price and type of the reward type)and check the price if the customer reaches the minimum requirement of taking the reward(which occurs when the customer obtains at least the total cost of 200).