King Saud University
College of Computer and Information Sciences
Department of Information Technology

IT222: Database Principles
2nd Semester 1443 H

Beauty salon

Phase # 4

Section #	NAME	ID
View Name: Customer		
54550 #	Safia Naif Abalkhail	442200668
54550 #	Reema Khalid Alangari	442200134
View Name: Manager		
54550 #	Noura Altowim	442200420
54550 #	Danah Alotaibi	442200854

Supervised By: Dr. Norah Bin Saeed

Project Description:

Beauty Salon is a salon that offers a variety of treatments and makeovers for a wide range of people. Due to its great number of customers, services, and employees, we decided to design a database that will help minimize time for future clients and workers and hopefully be able to easily manage its large amount of data.

Beauty salon

Customer

Section #	NAME	ID
54550 #	Safia Naif Abalkhail	442200668
54550 #	Reema Khalid Alangari	442200134

View Description:

A customer is someone who's willing to pay for beauty salons' services. By entering their personal information, the database will help the customer with booking, choosing a service provider, and schedule a suitable time.

Data Requirements:

Service :

A service is the activity done to provide and help the customer achieve their desired goal. The data stored for each service includes the service type, serviceID(PK), and the service price. One service can be included in one Booking.

Customer:

A customer is the client that is receiving the chosen service. The data included are the customer's phone number, customerEmail, customerNumber(PK)and the customer name. One customer can have one or more Bookings.

Booking:

A booking is a reservation that allows the customer to select a service and schedule it according to his time. The data stored in Booking are: BookingID(PK), date, time, total cost, and status. One book is assigned to one services.

Transaction Requirements:

Data Entry:

1- The customer can enter his name.
2- The customer can enter email, phone number

Data update/deletion:

1- update customer phone number.
2- update customer email.
3- Cancel future booking .

Data Queries:

1- List all services.
2- List all my bookings .
3 - List all my bookings in the next month.
4- List all available services booking on April 2022.
5- List all available times for haircut service.

Beauty salon

Manager

Section #	NAME	ID
54550 #	Noura Altowim	442200420
54550 #	Danah Aloatibi	442200854

View Description:

The manager is the person who needs an effective way to manage massive data in the salon. The database can provide several operations for the manager to deal with services and staff to provide a great experience for the customer.

Data Requirements:

Customer:

Is the person who will be provided the salon services, the attributes are CustomerName and CustomerNumber(PK), CustomerEmail, and Customer Phone Number, one customer can have one or more booking.

Booking:

A booking is a reservation that allows the customer to select a service and schedule it according to his time. The data stored in Booking are: BookingID(PK), date, time, total cost, and status. one booking is assigned to one service .

Staff:

A staff is someone who provides services to customers, the attributes are StaffName ,StaffPhoneNumber, StaffID(PK), and StaffJob(Staff's service specialty). All staff must do one and only one service. And one staff can be assigned to one or many booking(Meaning that the manager can view each service's staff to every booking)

Service:

Which is the purpose of the salon as is it provided to the customer by the staffs, the attributes for this entity are TheServiceNumber (PK) and ServiseName (meaningful name that describes what the service is) and ServiceCost (How much we spend to provide this service) ServicePrice (How much the customer pay ("profit"), One service can be provided by one or several Staffs.

Transaction Requirements:

Data Entry:

1- Enter Staff information (ID – name – number).
2- Enter the Services (cost-price), name and services number.

Data update/deletion:

1- Update service cost.
2- Delete service.
3- Update information about staff.

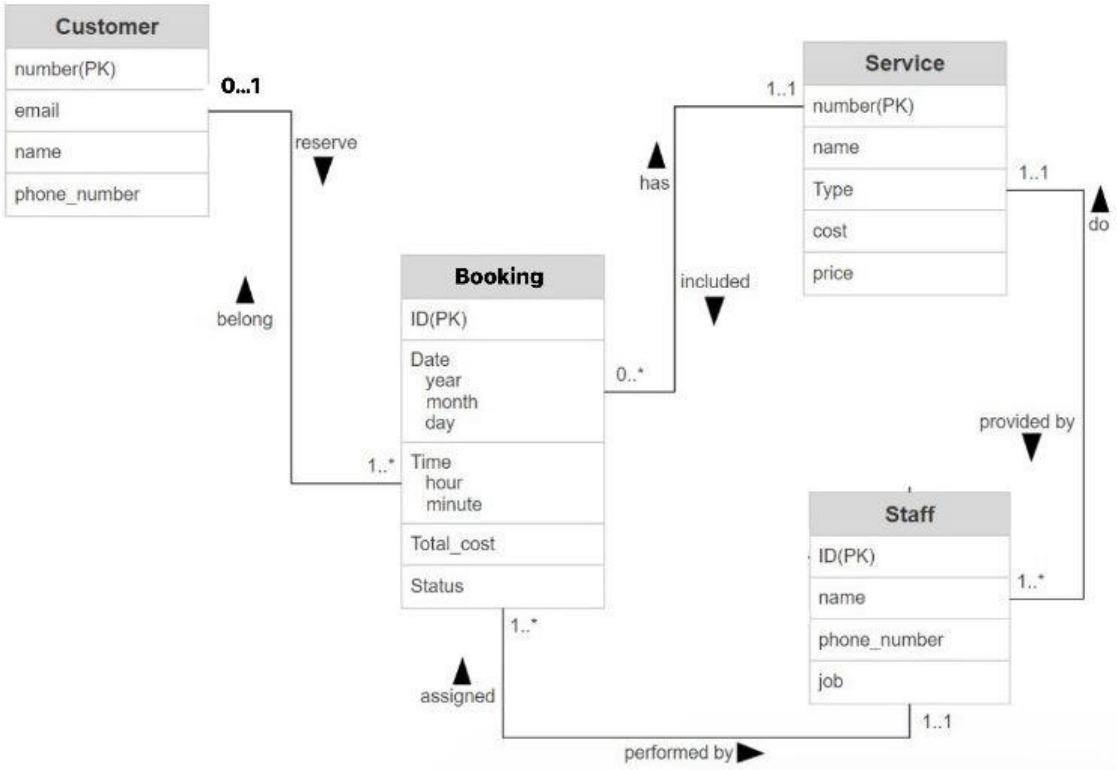
Data Queries:

1-List all staff.
2- List all ServiceNames.
3- Display the amount of profit in the nail polish service(price-cost).
4- List all services that cost 500 or more.
5-List names of staff who make haircut service.

Beauty salon

54550 #

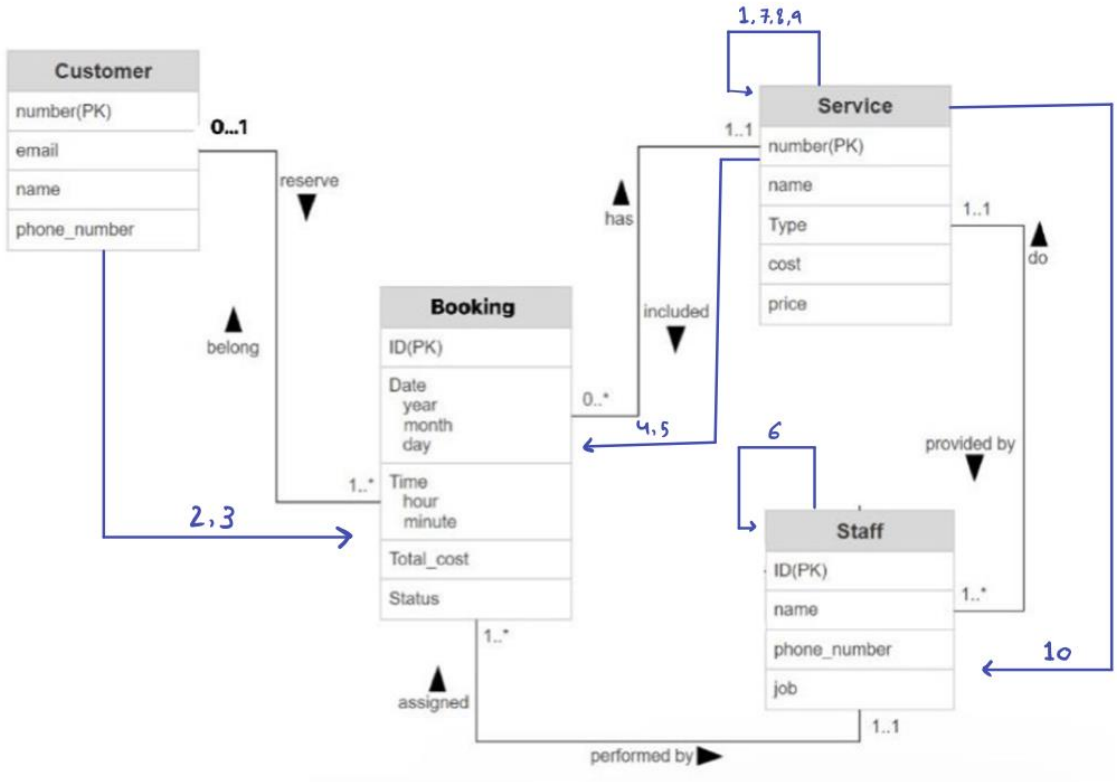
Global enhanced entity relationship diagram (EER):



Data Queries:

1) List all services
2) List all my bookings
3) List all my bookings in the next month
4) List all available service bookings on April 2022
5) List all available times for haircut services
6) List all staff
7) List all ServiceNames
8) Display the amount of profit in the nail polish service(price-cost).
9) List all services that cost 500 or more.
10) List names of staff who make haircut service

Transaction Pathway:



Relational Schema:

Customer(number , email , name , phone_number)

Primary Key number

Booking(ID , cnumber , stID, snumber , year , month , day , hour , minute , Total_cost , Status)

Primary Key : number

Foreign Key : cnumber references Customer (number)

Foreign Key : sID references Staff(ID)

Foreign Key : snumber references Service (number)

Staff(ID , number , name , phone_number , job)

Primary Key : ID
Foreign Key: number references (Service)

Service(number , name , Type , cost , price)

Primary Key : number

Data Dictionary showing description of all entities:

Entity Name	Description	Aliases	Occurrence
Customer	The person who will be provided the salon services.	-	one customer can have one or more bookings.
Booking	It is a reservation that allows the customer to select a service and schedule it according to his time.	-	one booking is assigned to one service.
Staff	Is someone who provides services to customers.	-	All staff must do one and only one service.
Service	Is the purpose of the salon as is it provided to the customer by the staff	-	One service can be provided by one or several Staffs.

Data Dictionary showing description of all relationships:

Entity Name	Multiplicity	Relationship	Entity Name	Multiplicity
Customer	0..1	reserve	Booking	1.. *
Booking	1.. *	Performed by	Staff	1..1
Staff	1.. *	Do	Service	1..1
Service	1..1	included	Booking	0..*

Data Dictionary showing description of all attributes:

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
customer	Number	Unique Number of costumers uniquely	VarChar	10	No	No			Yes
	Email	Email of customer	VarChar	250	No	No			
	Name	Name of customer	VarChar	20	No	No			
	Phone_number	Phone number of customer	varChar	10	No	No			

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
Booking	ID	Unique ID of the booking	VarChar	10	No	No			Yes
	Date								
	year	Booking year	VarChar		No	No			
	month	Booking monuth	VarChar		No	No			
	day	Booking day	VarChar		No	No			
	Time								
	Hour	Time of booking in hour	VarChar		No	No			
	Minute	Time of booking in minte	VarChar		No	No			
	Total_cost	Total cost of the booking	Decimal		No	No			
	status	Status of the booking	Varchar	10	No	No		Confirmed / canceled	

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
staff	ID	Unique ID of staff	VarChar	10	No	No			Yes
	Name	Name of staff	VarChar	20	No	No			
	Phone_number	Phone number of staff	VarChar	10	No	No			
	job	Job of staff	VarChar	30	No	No			

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
service	Number	Unique Number of the service	VarChar	10	No	No			Yes
	Name	Name of the service	VarChar	20	No	No			
	type	Type of service	VarChar	30	No	No		Hire-make up-body _care -nail	
	price	Price of the service	Decimal		No	No			

DB tables creation commands:

```
create table Customer(
number varchar(10) NOT NULL,
email varchar(250) NOT NULL,
name varchar(20) NOT NULL,
phone_number varchar(10) NOT NULL,
PRIMARY KEY(number));

create table Service(
number varchar(10) NOT NULL,
Type varchar(30) NOT NULL,
Name varchar(20) NOT NULL,
price decimal NOT NULL,
cost decimal NOT NULL,
PRIMARY KEY(Number));


create table Staff (
ID varchar(10) NOT NULL,
number varchar NOT NULL,
Name varchar(20) NOT NULL,
job varchar(30) NOT NULL,
phone_number varchar(10) NOT NULL,
PRIMARY KEY(ID),
Foreign Key (number) references Service (number));

create table Booking(
ID varchar(10) NOT NULL,
Cnumber varchar NOT NULL,
sID varchar(10) NOT NULL,
Snumber varchar (10)NOT NULL,
Year varchar NOT NULL,
Month varchar NOT NULL,
Day varchar NOT NULL,
Hour varchar NOT NULL,
Minute varchar NOT NULL,
Total_cost Decimal NOT NULL,
status varchar(10) NOT NULL,
PRIMARY KEY(ID),
Foreign Key (Cnumber) references Customer (number),
Foreign Key (sID) references Staff (ID),
Foreign Key (Snumber) references Service (number));
```

Data insertion commands:

insert into service values('225566' , 'HairService' , 'Haircut' , 120 , 50);

insert into service values('557799' , 'NailService' , 'Manicure' , 600, 550);

insert into Staff values('442200' , '557799', 'Norah AlMansour' , 'Nail artist' , '0501403445');

insert into Staff values('442266' , '225566', 'Sarah Ahmed' , 'Hairdresser' , '0504220073');

insert into customer values('0505' , 'Najla@hotmail.com' , 'Najla' , '0505463175');

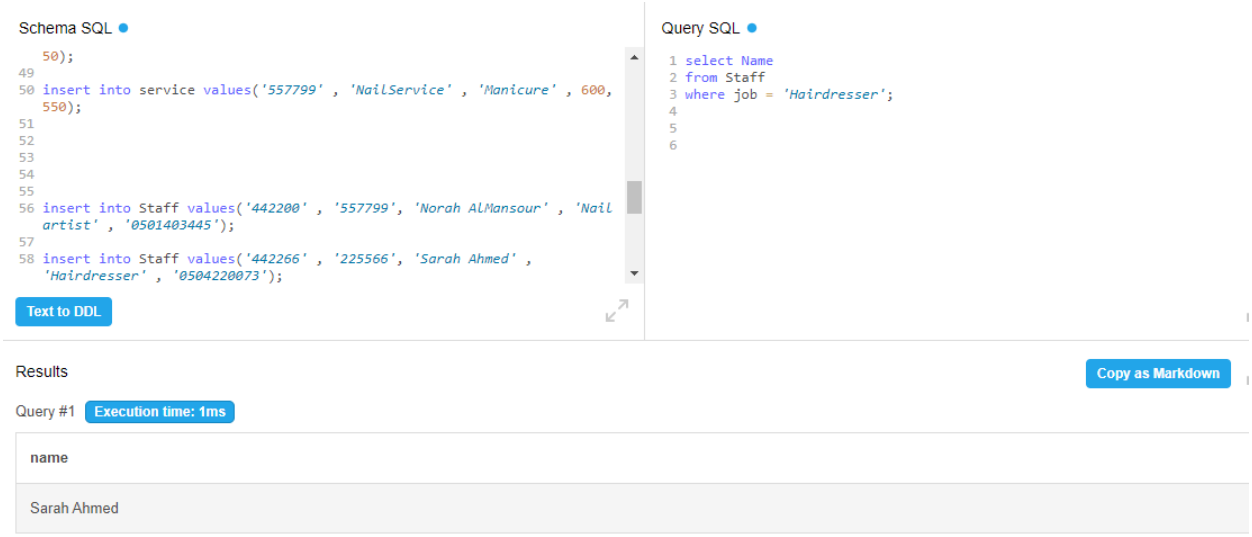
insert into customer values('0503' , 'Shaden@hotmail.com' , 'Shaden' , '0505465698');

insert into Booking values('117234' , '0505', '442200' ,'225566', '2022', 'January' , '13' , '6' , '30' , 200 , 'Ongoing');

insert into Booking values('117567' , '0503', '442266', '557799' , '2021', 'August' , '16' , '7' , '30' , 350 , 'Finished');

Data Queries commands and outputs:

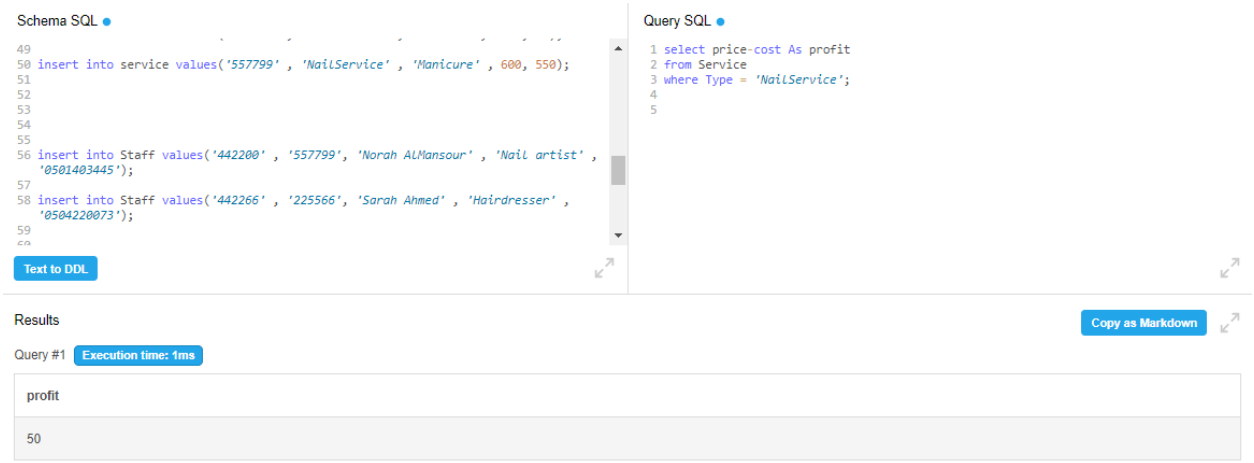
1- select Name
from Staff
where job = 'Hairdresser';



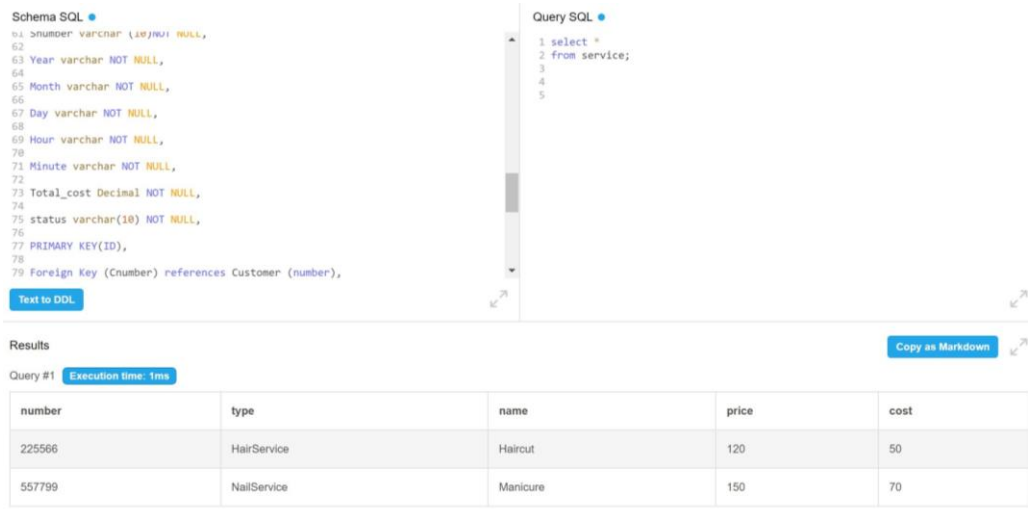
2- select *
from Booking b , Customer c
where b.cnumber = c.number and c.number = '0505' ;

id	cnumber	sid	snumber	year	month	day	hour	minute	total_cost	status	number	email	name	phone_number
117234	0505	442200	225566	2022	January	13	6	30	200	Ongoing	0505	Najla@hotmail.com	Najla	0505463175

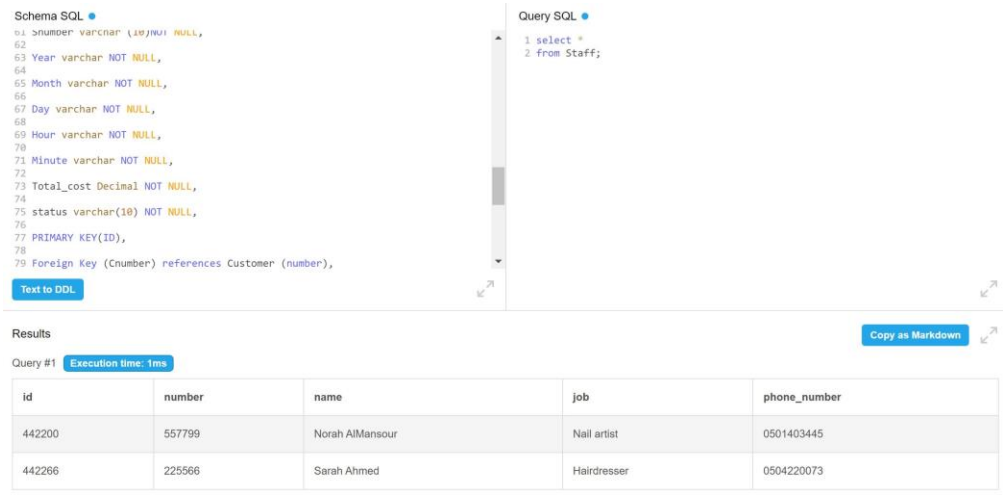
3- select price-cost As profit
from Service
where Type = 'NailService';



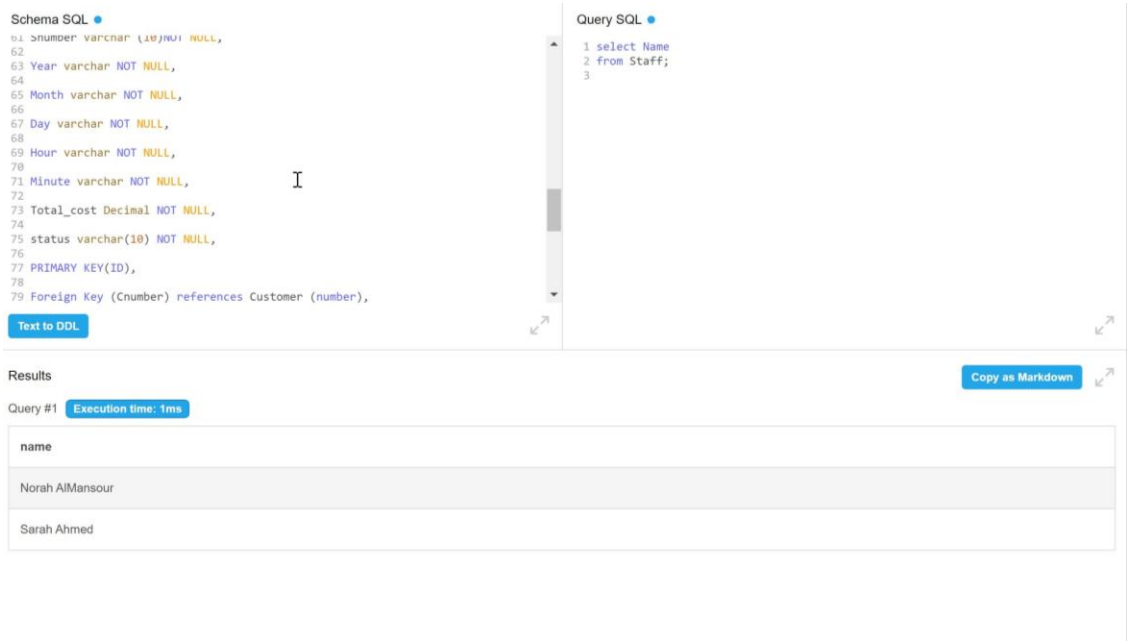
4-select *
from service;



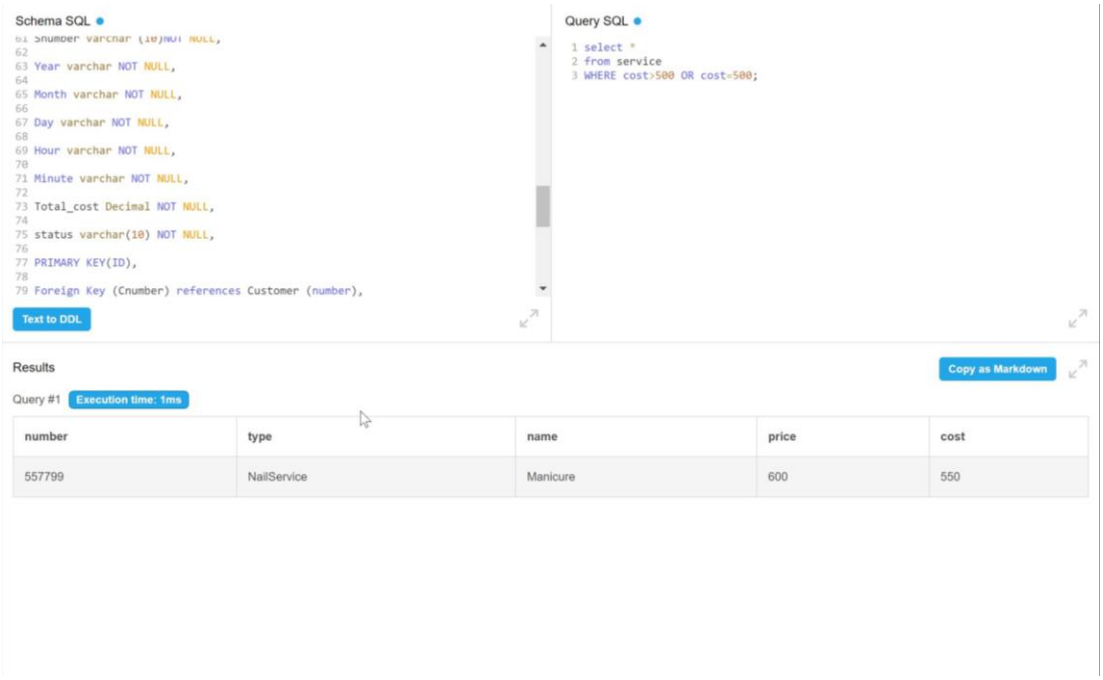
5- select *
from Staff;



6-select Name
from Staff;



7-select *
from service
WHERE cost>500 OR cost=500;



Work Distribution:

NAME	ID	Percentage	WORK
Reema Alangari	442200134	*25%*	*DB tables creation commands.*
Safia Abalkhail	*442200668*	*25%*	*Data insertion commands.*
Nora Altowim	442200420	*25%*	*Data Queries commands and outputs.*
Danah Alotaibi	442200854	*25%*	*Data Queries commands and outputs.*