

## **Beauty Salon Data Base**

College of computer science and Engineering

Jeddah university

Introduction to data base 1

(14767) (CD9)

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### **Project Description:**

Many beauty salons suffer from several problems in managing the salon and its supplies. In the past, they used files to manage the salon's information and use it when needed, but with the passage of time it was realized that collecting customer data and the services and cosmetic products required is a sensitive process. an error in this process would lead to a series of errors Either administratively or by the client. Lack of organization of data and salon needs, followed by poor customer service. There are needs for the salon, such as companies that finance them with products, and there are needs for the customer, such as her reservations and service requirements for the customer. All of this cannot be remedied using files, and here comes the need to create an organizational database for all salon requirements. We will collect data and then arrange it and link it to each other in a logical relationship and in the end create an integrated database about a beauty salon.

### **The entities are:**

<b>Customer</b>
<ul style="list-style-type: none"><li>– ID number</li><li>-First name</li><li>-Last name</li><li>-Address</li><li>-Mobile</li><li>-Email</li></ul>

<b>Products</b>
<ul style="list-style-type: none"><li>-Id (PK)</li><li>-Name</li><li>-Color</li><li>-Price</li></ul>

<b>Service</b>
<ul style="list-style-type: none"><li>-Id (PK)</li><li>-Service type</li></ul>

<b>Staff</b>
<ul style="list-style-type: none"><li>– ID number</li><li>-First name</li><li>-Last name</li><li>-Mobile</li></ul>

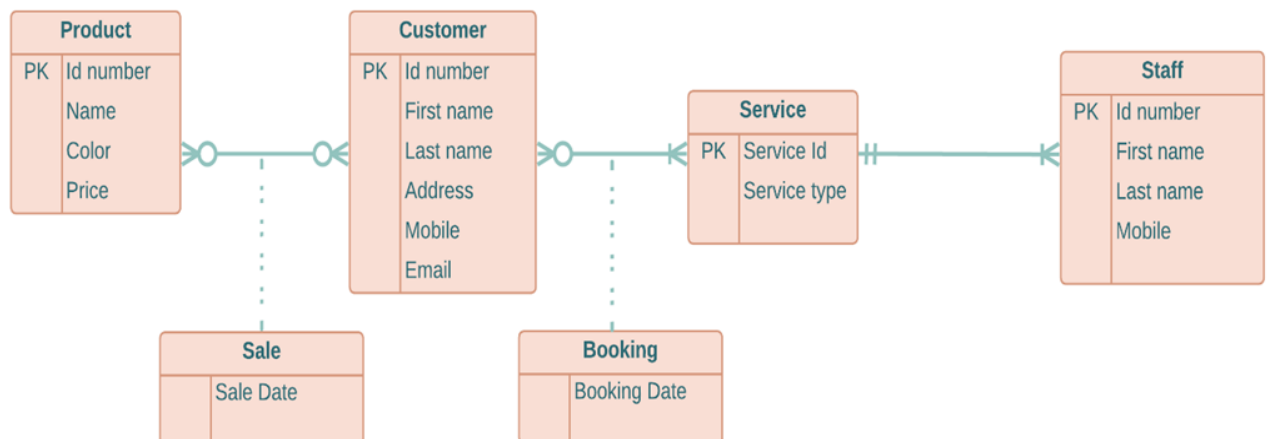
<b>Sale</b>
<ul style="list-style-type: none"><li>-Sale Date</li></ul>

<b>Booking</b>
<ul style="list-style-type: none"><li>-Booking Date</li></ul>

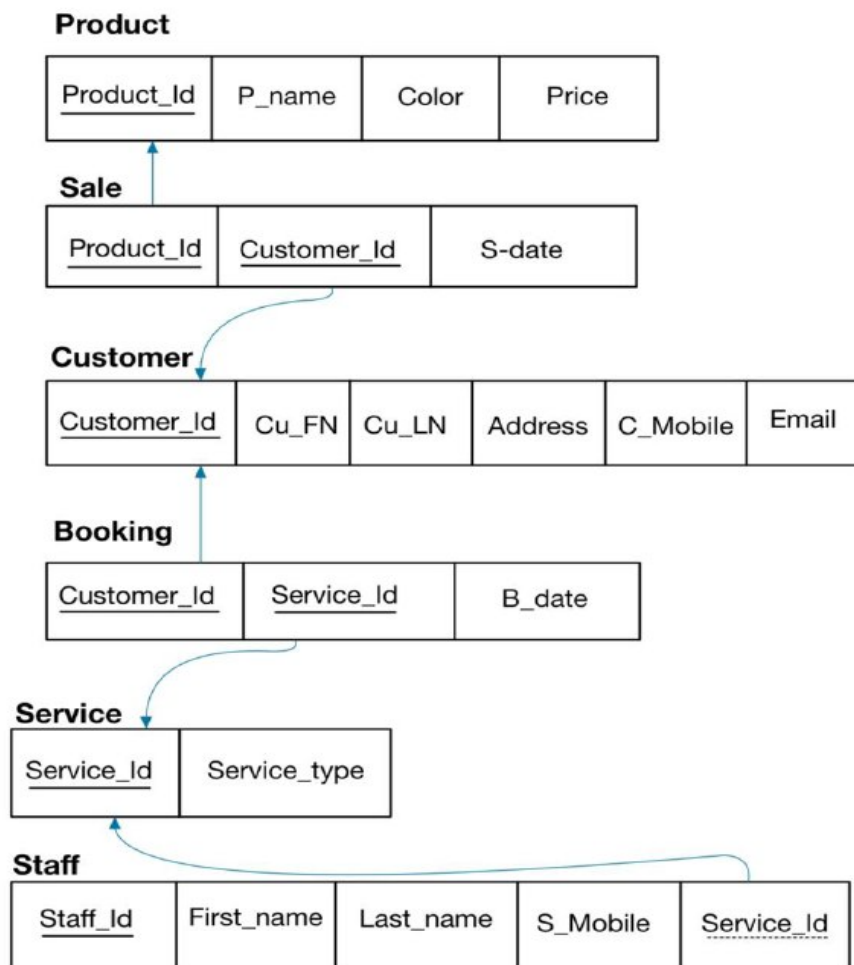
## The Scenario:

A beauty salon is a company that has a headquarters on the ground and an application for customer service. The database is designed to save and store data logically as follows, each customer must have an ID number this is primary key, first name, last name, address, phone, email and every product must have an ID number this is primary key, name, color, price. One customer can buy more than one product, or it was not on the condition that every potential product must have more than one customer and there is an attribute of the relationship between the customer and the product called sale\_date, and there are services. Each service must have a service ID. This is a primary key and service type. Every user must choose one or more services. There is a attribute named is booking date between the user and the services. Also there is a staff entity. Each employee must have ID\_number, this primary key, first and last name, and phone number.

## The ER diagram:



## Convert ER into Relation:



## Tables Normalization:

### Tables Normalization:

Salon ( cust\_Id, cust\_Fname, cust\_Lname, cust\_address, cust\_mobile, cust\_email, serv\_Id, servType, staff\_Id, stf\_Fname, stf\_Lname, stf\_mobile, prod\_Id, prodName, prodColor, prodPrice, sale\_date, booking\_date)

#### 1NF:

Customer ( cust\_Id, cust\_Fname, cust\_Lname, cust\_address, cust\_mobile, cust\_email)

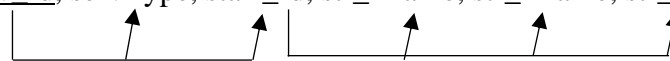
Cust\_Serv ( cust\_Id, serv\_Id, servType, staff\_Id, stf\_Fname, stf\_Lname, stf\_mobile, prod\_Id, prodName, prodColor, prodPrice, sale\_date, booking\_date)

#### 2NF:

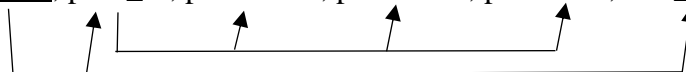
Customer ( cust\_Id, cust\_Fname, cust\_Lname, cust\_address, cust\_mobile, cust\_email)

Cust\_Serv ( cust\_Id, serv\_Id, booking\_date)

Serv\_Staff ( serv\_Id, servType, staff\_Id, stf\_Fname, stf\_Lname, stf\_mobile)



Cust\_Product ( cust\_Id, prod\_Id, prodName, prodColor, prodPrice, sale\_date)



#### 3NF:

Customer ( cust\_Id, cust\_Fname, cust\_Lname, cust\_address, cust\_mobile, cust\_email)

Cust\_Serv ( cust\_Id\*, serv\_Id\*, booking\_date)

Staff ( staff\_Id, stf\_Fname, stf\_Lname, stf\_mobile, serv\_Id\*)

Product ( prod\_Id, prodName, prodColor, prodPrice)

Serv( serv\_Id, servType)

Cust\_Product ( cust\_Id\*, prod\_Id\*, sale\_date)

## SQL Code:

--FIRST TABLE--

```
CREATE TABLE Product(  
Product_Id NUMBER(8) Primary key,  
P_name varchar2(30) NOT NULL,  
(20)Color varchar2,  
Price NUMBER(6));
```

--SECOND TABLE--

```
CREATE TABLE Customer(  
Customer_Id NUMBER (8) Primary key,  
Cu_FN Varchar2 (30) NOT NULL,  
Cu_LN Varchar2 (30) NOT NULL,  
(30) Address Varchar2,  
(10) C_Mobile NUMBER,  
Email Varchar2 (50));
```

--THIRD TABLE--

```
CREATE TABLE Sale(  
(8) Product_Id NUMBER,  
(8) Customer_Id NUMBER,  
S_date DATE DEFAULT sysdate,  
Primary key (Product_Id , Customer_Id),  
CONSTRAINT s_fk1 FOREIGN KEY (Product_Id) REFERENCES Product  
(Product_Id),  
CONSTRAINT s_fk2 FOREIGN KEY (Customer_Id) REFERENCES Customer  
(Customer_Id));
```

--FOURTH TABLE--

```
CREATE TABLE Service(  
Service_Id NUMBER (8) Primary key,  
Service_type Varchar2 (50));
```

--FIFTH TABLE--

```
CREATE TABLE Booking(  
(8) Customer_Id NUMBER,  
(8) Service_Id NUMBER,  
B_date DATE DEFAULT sysdate,  
Primary key (Customer_Id , Service_Id),  
CONSTRAINT b_fk1 FOREIGN KEY (Customer_Id) REFERENCES Customer  
(Customer_Id),  
CONSTRAINT b_fk2 FOREIGN KEY (Service_Id) REFERENCES Service  
(Service_Id));
```

--SIXTH TABLE--

```
CREATE TABLE Saff(  
Staff_Id Number (8) Primary key,  
First_name Varchar2 (30) NOT NULL,  
Last_name Varchar2 (30) NOT NULL,  
(10) S_Mobile NUMBER,  
(8) Service_Id NUMBER,  
CONSTRAINT s_fk FOREIGN KEY (Service_Id) REFERENCES Service  
(Service_Id));
```

---Insert to all tables---

insert into Product values(22547894,'Emery board','Blue',30);

insert into Product values(22760923,'Argan oil shampoo','white',40);

insert into Product values(22759306,'chemical hair treatment', 'yellow',50);

insert into Product values(22762098,'Mint face mask','green',30);

insert into Product values(22823245,'wooden comb','brouwn',50);

insert into Customer values(31654398,'sara','Abdullah','4501  
STREET','0954387698','76543@hotmail.com');

insert into Customer values(31873409,'noura','khaled','3387  
STREET','0965487345','87436@hotmail.com');

insert into Customer values(31873456,'lara','ahmed','4501  
STREET','0989435676','987453@hotmail.com');

insert into Customer values(31548904,'rema','naser','9843  
STREET','0965231945','98436@hotmail.com');

insert into Customer values(31639802,'Llamar','souad','4501  
STREET','0937890632','43567@hotmail.com');

insert into Sale values(22547894,31654398,DATE '2021-12-2');

insert into Sale values(22760923,31873409,DATE '2021-12-5');

insert into Sale values(22759306,31873456,DATE '2021-12-16');

insert into Sale values(22762098,31548904,DATE '2021-12-21');

insert into Sale values(22823245,31654398,DATE '2021-12-26');

insert into Service values(51675478,'hair cut');

insert into Service values(51769805,'Make up');

insert into Service values(51643980,'nail clipping');

insert into Service values(51478329,'hear styling');

insert into Service values(51879054,'facial skin cleaning');



```
insert into Booking values(31873409,51769805,DATE '2021-12-1');
insert into Booking values(31654398,51675478,DATE '2021-12-4');
insert into Booking values(31873456,51643980,DATE '2021-12-15');
insert into Booking values(31548904,51478329,DATE '2021-12-20');
insert into Booking values(31639802,51879054,DATE '2021-12-25');
```

```
insert into Saff values(61564328,'nuha','ahmed','0876435678',51769805);
insert into Saff values(61589345,'fatimah','adnan','0886345624',51478329);
insert into Saff values (61762345,'azhar','abdalrhman','0854623189',51643980);
insert into Saff values(61768932,'rose','jack','0856743290',51879054);
insert into Saff values(61764532,'maila','fred','0898674321',51675478);
```

---Queries---

---GROUP and ORDER BY---

```
select Price, count(*)
from Product
group by Price
order by Price;
```

---JOIN and WHERE---

```
select Service.Service_Id,Staff_Id,First_name
from saff,Service
where Service.Service_Id= saff.Service_Id;
```

---SUBQUERY---

```
select Service_type
from Service
where Service_Id IN (select distinct Service_Id from saff);
```

---AGGREGATE---

```
select MIN(Price) as min_price,MAX(Price) as max_price  
;from Product
```

---Display Tables---

```
select* from Product;  
select* from Customer;  
select* from Sale;  
select* from Service;  
select* from Booking;  
select* from saff;
```

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SQL Worksheet

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```
1 --FIRST TABLE--
2 CREATE TABLE Product (
3   Product_Id NUMBER(8) Primary key,
4   P_name Varchar2(30) NOT NULL,
5   Color Varchar2(20),
6   Price NUMBER(6));
7
8 --SECOND TABLE--
9 CREATE TABLE Customer (
10  Customer_Id NUMBER (8) Primary key,
11  Cu_FN Varchar2 (30) NOT NULL,
12  Cu_LN Varchar2 (30) NOT NULL,
13  Address Varchar2 (30),
14  C_Mobile NUMBER (10),
15  Email Varchar2 (50));
16
17 --THIRD TABLE--
18 CREATE TABLE Sale (
19  Product_Id NUMBER (8),
20  Customer_Id NUMBER (8),
21  S_date DATE DEFAULT sysdate,
22  Primary key (Product_Id , Customer_Id),
23  CONSTRAINT s_fk1 FOREIGN KEY (Product_Id) REFERENCES Product (Product_Id),
24  CONSTRAINT s_fk2 FOREIGN KEY (Customer_Id) REFERENCES Customer (Customer_Id) );
25
```

Table created.

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SQL Worksheet

Clear Find Actions Save Run

```
25
26 --FOURTH TABLE--
27 CREATE TABLE Service (
28   Service_Id NUMBER (8) Primary key ,
29   Service_type Varchar2 (50));
30
31 --FIFTH TABLE--
32 CREATE TABLE Booking (
33   Customer_Id NUMBER (8),
34   Service_Id NUMBER (8) ,
35   B_date DATE DEFAULT sysdate,
36   Primary key (Customer_Id , Service_Id),
37   CONSTRAINT b_fk1 FOREIGN KEY (Customer_Id) REFERENCES Customer (Customer_Id),
38   CONSTRAINT b_fk2 FOREIGN KEY (Service_Id) REFERENCES Service (Service_Id) );
39
40 --SIXTH TABLE--
41 CREATE TABLE Saff (
42   Staff_Id Number (8) Primary key,
43   First_name Varchar2 (30) NOT NULL,
44   Last_name Varchar2 (30) NOT NULL,
45   S_Mobile NUMBER (10),
46   Service_Id NUMBER (8),
47   CONSTRAINT s_fk FOREIGN KEY (Service_Id) REFERENCES Service (Service_Id) );
48
49 ---Insert to all tables---
```

Table created.

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```
48 ---Insert to all tables---
49
50 insert into Product values(22547894,'Emery board','Blue',30);
51 insert into Product values(22760923,'Argan oil shampoo','white',40);
52 insert into Product values(22759306,'chemical hair treatment','yellow',50) ;
53 insert into Product values(22762098,'Mint face mask','green',30);
54 insert into Product values(22823245,'wooden comb','brown',50);
55
56
57
58 insert into Customer values(31654398,'sara','Abdullah','4501 STREET','0954387698','76543@hotmail.com');
59 insert into Customer values(31873409,'noura','khaled','3387 STREET','0965487345','87436@hotmail.com');
60 insert into Customer values(31873456,'lara','ahmed','4501 STREET','0989435676','98745@hotmail.com');
61 insert into Customer values(31548904,'rema','naser','9843 STREET','0965231945','98436@hotmail.com');
62 insert into Customer values(31639802,'Llamar','soud','4501 STREET','0937890632','43567@hotmail.com');
63
64
65 insert into Sale values(22547894,31654398,DATE '2021-12-2');
66 insert into Sale values(22760923,31873409,DATE '2021-12-5');
67 insert into Sale values(22759306,31873456,DATE '2021-12-16');
68 insert into Sale values(22762098,31548904,DATE '2021-12-21');
69 insert into Sale values(22823245,31654398,DATE '2021-12-26');
70
71
72 insert into Service values(51675478,'hair cut');
```

Table created.

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SQL Worksheet

Clear Find Actions Save Run

```
71 insert into Service values(51675478,'hair cut');
72 insert into Service values(51769805,'Make up');
73 insert into Service values(51643980,'nail clipping');
74 insert into Service values(51478329,'hair styling');
75 insert into Service values(51879054,'facial skin cleaning');
76
77
78 insert into Booking values(31873409,51769805,DATE '2021-12-1');
79 insert into Booking values(31654398,51675478,DATE '2021-12-4');
80 insert into Booking values(31873456,51643980,DATE '2021-12-15');
81 insert into Booking values(31548904,51478329,DATE '2021-12-20');
82 insert into Booking values(31639802,51879054,DATE '2021-12-25');
83
84
85
86 insert into Saff values(61564328,'nuha','ahmed','0876435678',51769805);
87 insert into Saff values(61589345,'fatimah','adnan','0886345624',51478329);
88 insert into Saff values(61762345,'azhar','abdalrhman','0854623189',51643980);
89 insert into Saff values(61768932,'rose','jack','0856743290',51879054);
90 insert into Saff values(61764532,'maila','fred','0898674321',51675478);
91
92
93 ---Queries---
94
95 ---GROUP and ORDER BY---
```

Table created.

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SQL Worksheet

Clear Find Actions Save Run

```
95 ---GROUP and ORDER BY---
96 select Price, count(*)
97 from Product
98 group by Price
99 order by Price;
100 ---JOIN and WHERE---
101 select Service.Service_Id,Staff_Id,First_name
102 from saff,Service
103 where Service.Service_Id= saff.Service_Id;
104 ---SUBQUERY---
105 select Service_type
106 from Service
107 where Service_Id IN (select distinct Service_Id from saff);
108
109 ---AGGREGATE---
110 select MIN(Price) as min_price,MAX(Price) as max_price
111 from Product;
112
113 ---Display Tables---
114 select* from Product;
115 select* from Customer;
116 select* from Sale;
117 select* from Service;
118 select* from Booking;
119 select* from saff;
```

Table created.

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## All tables

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SQL Worksheet

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PRODUCT_ID	P_NAME	COLOR	PRICE
22547894	Emery board	Blue	30
22760923	Argan oil shampoo	white	40
22759306	chemical hair treatment	yellow	50
22762098	Mint face mask	green	30
22823245	wooden comb	brouwn	50

Download CSV  
5 rows selected.

CUSTOMER_ID	CU_FN	CU_LN	ADDRESS	C_MOBILE	EMAIL
31654398	sara	Abdullah	4501 STREET	954387698	76543@hotmail.com
31873409	noura	khaled	3387 STREET	965487345	87436@hotmail.com
31873456	lara	ahmed	4501 STREET	989435676	987453@hotmail.com
31548904	rema	naser	9843 STREET	965231945	98436@hotmail.com
31639802	Llamar	souad	4501 STREET	937890632	43567@hotmail.com

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PRODUCT_ID	CUSTOMER_ID	S_DATE
22547894	31654398	02-DEC-21
22760923	31873409	05-DEC-21
22759306	31873456	16-DEC-21
22762098	31548904	21-DEC-21
22823245	31654398	26-DEC-21

Download CSV  
5 rows selected.

SERVICE_ID	SERVICE_TYPE
51675478	hair cut
51769805	Make up
51643980	nail clipping
51478329	hear styling
51879054	facial skin cleaning

Download CSV  
5 rows selected.

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CUSTOMER_ID	SERVICE_ID	B_DATE
31873409	51769805	01-DEC-21
31654398	51675478	04-DEC-21
31873456	51643980	15-DEC-21
31548904	51478329	20-DEC-21
31639802	51879054	25-DEC-21

Download CSV  
5 rows selected.

STAFF_ID	FIRST_NAME	LAST_NAME	S_MOBILE	SERVICE_ID
61564328	nuha	ahmed	876435678	51769805
61589345	fatimah	adnan	886345624	51478329
61762345	azhar	abdalrhman	854623189	51643980
61768932	rose	jack	856743290	51879054
61764532	maila	fred	898674321	51675478

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## GROUP and ORDER BY

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following queries:

```
89 insert into Saff values (61762345,'azhar','abdalrhman','0854623189',51643980);
90 insert into Saff values(61768932,'rose','jack','0856743290',51879054);
91 insert into Saff values(61764532,'maila','fred','0898674321',51675478);
92
93 ---Queries---
94
95 ---GROUP and ORDER BY---
96 select Price, count(*)
97 from Product
98 group by Price
99 order by Price;
100 ---JOIN and WHERE---
```

The results show a table with 3 rows selected:

PRICE	COUNT(*)
30	2
40	1
50	2

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## JOIN and WHERE

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following queries:

```
99 order by Price;
100 ---JOIN and WHERE---
101 select Service.Service_Id,Staff_Id,First_name
102 from saff,Service
103 where Service.Service_Id= saff.Service_Id;
104 ---SUBQUERY---
105 select Service_type
106 from Service
107 where Service_Id IN (select distinct Service_Id from saff);
108
109 ---AGGREGATE---
110 select MIN(Price) as min price,MAX(Price) as max price
```

The results show a table with 5 rows selected:

SERVICE_ID	STAFF_ID	FIRST_NAME
51769805	61564328	nuha
51478329	61589345	fatimah
51643980	61762345	azhar
51879054	61768932	rose
51675478	61764532	maila

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## SUBQUERY

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
99 order by Price;
100 ---JOIN and WHERE---
101 select Service,Service_Id,Staff_Id,First_name
102 from saff,Service
103 where Service.Service_Id= saff.Service_Id;
104 ---SUBQUERY---
105 select Service_type
106 from Service
107 where Service_Id IN (select distinct Service_Id from saff);
108 |
109 ---AGGREGATE---
110 select MIN(Price) as min_price,MAX(Price) as max_price
```

The result of the query is displayed as a table:

SERVICE_TYPE
Make up
hear styling
nail clipping
facial skin cleaning
hair cut

Download CSV  
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## AGGREGATE

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
108 ---AGGREGATE---
109 select MIN(Price) as min_price,MAX(Price) as max_price
110 from Product;
111 |
112 ---Display Tables---
113 select* from Product;
114 select* from Customer;
115 select* from Sale;
116 select* from Service;
117 select* from Booking;
118 select* from saff;
```

The result of the query is displayed as a table:

MIN_PRICE	MAX_PRICE
30	50

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