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Application Software Development Lab



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Cycle 1

Exp No 3

BASIC SQL QUERIES – II

1 Aim

Introduction to SQL statements

- 1. ALTER
- 2. RENAME
- 3. SELECT DISTINCT
- 4. SQL IN
- 5. SQL BETWEEN
- 6. Sql aliases
- 7. Sql AND
- 8. Sql OR

2 Questions

Create a table named car_details and populate the table.

```
create table car_details(ID int not null,Name Varchar(10),company varchar(10),  
country varchar(10),ApproxPrice real);
```

```
insert into car_details values ('1' , 'Beat','Chevrolet' , 'USA','4');  
insert into car_details values ('2' , 'Swift','Maruti' , 'Japan','6');  
insert into car_details values ('3' , 'Escort','Ford' , 'USA','4.2');  
insert into car_details values ('4' , 'Sunny','Nissan' , 'Japan','8');  
insert into car_details values ('5' , 'Etios','Toyoto' , 'Japan','7.2');  
insert into car_details values ('6' , 'Beetle','Volkswagen' , 'Germany','21');  
insert into car_details values ('7' , 'Sail','Chevrolet' , 'USA','5');  
insert into car_details values ('8' , 'Aria','Tata' , 'India','7');  
insert into car_details values ('9' , 'Passat','Volkswagen' , 'Germany','25');  
insert into car_details values ('10' , 'SX4','Maruti' , 'Japan','6.7');
```

0. Display the details of all cars

```
select * from car_details;
```

```
asdlab=# select * from car_details;
 id | name   | company   | country | approxprice
-----+-----+-----+-----+-----
  1 | Beat   | Chevrolet | USA     |          4
  2 | Swift  | Maruti    | Japan   |          6
  3 | Escort | Ford      | USA     |         4.2
  4 | Sunny  | Nissan    | Japan   |          8
  5 | Etios  | Toyoto    | Japan   |         7.2
  6 | Beetle | Volkswagen | Germany |         21
  7 | Sail   | Chevrolet | USA     |          5
  8 | Aria   | Tata      | India   |          7
  9 | Passat | Volkswagen | Germany |         25
 10 | SX4    | Maruti    | Japan   |         6.7
(10 rows)

asdlab=#
```

Figure 1: Car_details Table

1. List the names of all companies as mentioned in the database

```
select distinct company from car_details;
```

```
asdlab=# select distinct company from car_details;
 company
-----
 Ford
 Toyoto
 Maruti
 Chevrolet
 Tata
 Nissan
 Volkswagen
(7 rows)

asdlab=#
```

Figure 2: Company names

2. List the names of all countries having car production companies

```
select distinct country from car_details;
```

```
asdlab=# select distinct country from car_details;
country
-----
USA
Germany
India
Japan
(4 rows)

asdlab=#
```

Figure 3: Country Names

3. List the details of all cars within a price range 4 to 7 lakhs

```
select * from car_details where approxprice>='4' and approxprice<=7;
```

```
asdlab=# select * from car_details where approxprice>='4' and approxprice<=7;
id | name | company | country | approxprice
---+---+---+---+---
1 | Beat | Chevrolet | USA | 4
2 | Swift | Maruti | Japan | 6
3 | Escort | Ford | USA | 4.2
7 | Sail | Chevrolet | USA | 5
8 | Aria | Tata | India | 7
10 | SX4 | Maruti | Japan | 6.7
(6 rows)

asdlab=#
```

Figure 4: Cars in between 4 lakh and 7 lakh

4. List the name and company of all cars originating from Japan and having price<=6 lakhs

```
select name,company from car_details where country='Japan' and approxprice<='6';
```

```
asdlab=# select name,company from car_details where country='Japan' and approxprice<='6';
name | company
-----+-----
Swift | Maruti
(1 row)

asdlab=#
```

Figure 5: cars in japan below 6 lakhs

5. List the names and the companies of all cars either from Nissan or having a price greater than 20 lakhs.

```
select name,company from car_details where company='Nissan' or approxprice>'20';
```

```
asdlab=# select name,company from car_details where company='Nissan' or approxprice>'20';
 name | company 
-----+-----
 Sunny | Nissan
 Beetle | Volkswagen
 Passat | Volkswagen
(3 rows)

asdlab=#
```

Figure 6: Nissan or price greater than 20 lakhs

6 List the names of all cars produced by (Maruti,Ford).Use SQL IN statement.

```
select name from car_details where company in ('Maruti' , 'Ford');
```

```
asdlab=# select name from car_details where company in ('Maruti' , 'Ford');
 name
-----
 Swift
 Escort
 SX4
(3 rows)

asdlab=#
```

Figure 7: Maruti or Ford

7 Alter the table cars to add a new field year (model release year).Update the year column for all the rows in the database.

```
alter table car_details add year int;  
update car_details set year='2015';
```

```
asdlab=# alter table car_details add year int;  
ALTER TABLE  
asdlab=# update car_details set year='2015';  
UPDATE 10  
asdlab=# select * from car_details ;  
 id |  name  | company  | country | approxprice | year  
-----+-----+-----+-----+-----+-----  
  1 | Beat   | Chevrolet | USA     | 4           | 2015  
  2 | Swift  | Maruti    | Japan   | 6           | 2015  
  3 | Escort | Ford      | USA     | 4.2         | 2015  
  4 | Sunny  | Nissan    | Japan   | 8           | 2015  
  5 | Etios  | Toyoto    | Japan   | 7.2         | 2015  
  6 | Beetle | Volkswagen | Germany | 21          | 2015  
  7 | Sail   | Chevrolet | USA     | 5           | 2015  
  8 | Aria   | Tata      | India   | 7           | 2015  
  9 | Passat | Volkswagen | Germany | 25          | 2015  
 10 | SX4    | Maruti    | Japan   | 6.7         | 2015  
(10 rows)  
  
asdlab=#
```

Figure 8: Adding Year Column

8 Display the names of all cars as Car_name (while displaying the name attribute should be listed as car_aliases).

```
select name as Car_name from car_details ;
```

```
asdlab=# select name as Car_name from car_details ;  
 car_name  
-----  
Beat  
Swift  
Escort  
Sunny  
Etios  
Beetle  
Sail  
Aria  
Passat  
SX4  
(10 rows)  
  
asdlab=#
```

Figure 9: Selecting car names as car_names

9 Rename the attribute name to car_name.

```
alter table car_details rename name to car_name;
```

```
asdlab=# alter table car_details rename name to car_name;
ALTER TABLE
asdlab=# \d+ car_details
```

Column	Type	Table Collation
id	integer	
car_name	character varying(10)	
company	character varying(10)	
country	character varying(10)	
approxprice	real	
year	integer	

```
asdlab=#
```

Figure 10: Rename car name

10 List the car manufactured by Toyota(to be displayed as cars_Toyota)

```
select car_name as cars_toyoto from car_details where company='Toyoto';
```

```
asdlab=# select car_name as cars_toyoto from car_details where company='Toyoto';
 cars_toyoto
-----
Etios
(1 row)

asdlab=#
```

Figure 11: Cars of Toyoto

11 List the details of all cars in alphabetical order.

```
select * from car_details order by car_name;
```

```
asdlab=# select * from car_details order by car_name;
id | car_name | company   | country | approxprice | year
---+-----+-----+-----+-----+-----
 8 | Aria     | Tata     | India   |          7 | 2015
 1 | Beat     | Chevrolet| USA     |          4 | 2015
 6 | Beetle   | Volkswagen| Germany |         21 | 2015
 3 | Escort   | Ford     | USA     |         4.2 | 2015
 5 | Etios    | Toyoto   | Japan   |         7.2 | 2015
 9 | Passat   | Volkswagen| Germany |         25 | 2015
 7 | Sail     | Chevrolet| USA     |          5 | 2015
 4 | Sunny    | Nissan   | Japan   |          8 | 2015
 2 | Swift    | Maruti   | Japan   |          6 | 2015
10 | SX4      | Maruti   | Japan   |         6.7 | 2015
(10 rows)

asdlab=#
```

Figure 12: Car details in alphabetical order

112 List the details of all cars from cheapest to costliest.

```
select * from car_details order by approxprice;
```

```
asdlab=# select * from car_details order by approxprice;
id | car_name | company   | country | approxprice | year
---+-----+-----+-----+-----+-----
 1 | Beat     | Chevrolet| USA     |          4 | 2015
 3 | Escort   | Ford     | USA     |         4.2 | 2015
 7 | Sail     | Chevrolet| USA     |          5 | 2015
 2 | Swift    | Maruti   | Japan   |          6 | 2015
10 | SX4      | Maruti   | Japan   |         6.7 | 2015
 8 | Aria     | Tata     | India   |          7 | 2015
 5 | Etios    | Toyoto   | Japan   |         7.2 | 2015
 4 | Sunny    | Nissan   | Japan   |          8 | 2015
 6 | Beetle   | Volkswagen| Germany |         21 | 2015
 9 | Passat   | Volkswagen| Germany |         25 | 2015
(10 rows)

asdlab=#
```

Figure 13: Car details in cheapest to costliest

3 Result

The query was executed successfully and output was verified.