

SQL



STRUCTURED QUERY LANGUAGE



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**A
PROJECT REPORT
On**

**‘MANUFACTURE PARTS AND MACHINE’
‘THE CAR AND OWNER DETAILS’**



**Seven Mentors Institute, Pune
2024-25**



**Date :
7 th Aug. 2024**

**Submitted by:
Nilam Namdev Bhosale**

CERTIFICATE

This is to certify that the project called

‘MANUFACTURE PARTS AND MACHINE’

‘THE CAR AND OWNER DETAILS’

is the Bonafide work carried out by Nilam Namdev Bhosale at SEVEN MENTOR INSTITUTE, PUNE under the guidance of SQL Course tutor Mr. Sagar Gade Sir and this project report leads the career path by exploring SQL concepts.

DATE : 7th Aug.2024

PLACE: Pune

SIGNATURE OF GUIDE

DECLARATION

I hereby declare that, The project entitled is an outcome of my own efforts under the guidance of Mr. Sagar Gade Sir. The project is submitted to the Seven Mentor Institute Pune. For the partial fulfillment of the '**Structured Query Language Course**' 2024-25.

I also declare that this project report has not been previously submitted to any other institute.

DATE: 7th Aug 2024

Nilam Namdev Bhosale

PLACE: Pune

ACKNOWLEDGEMENT

The completion of any project is always due to the efforts of numerous people. So, no project would be considered complete without a word of acknowledgment for all those who contributed to the project.

I sincerely thank our Training Institute 'Seven Mentor' for their valuable timely help. I would like to take this opportunity to express our deep sense of humbleness and our sincere, earful, and proud gratitude to our project guide Mr. Sagar Gade Sir.

INTRODUCTION

Case Study 1:

In manufacturing, there is a pressing need to effectively manage machine and part datasets to optimize operations and ensure product quality. This entails addressing challenges like cost management, inventory control, and compatibility between machines and parts. Through SQL analysis, we aim to develop solutions that enhance data accuracy, streamline processes, and improve decision-making.

Consider The Following Entities & Relationships,

- Machine(M.no, M_name, M_type, M_cost)
- parts(P.no, P_name ,P_desc)

Machine and parts are related with one to many relationship. Perform query on a manufacturing dataset and part dataset creating some relation between them

- 1.increase the cost of machine by 5%.
- 2.delete all machine having particular "wheel"
- 3.list all the machine whose cost greater than 1 lakhs

Case study 2:

Efficiently managing owner and car data is vital in the automotive sector. This case study involves creating a relational database for owner and car entities and solving queries related to data retrieval and modification. Queries include finding owners of specific car models, inserting new car records, listing models of owners with particular colors, and retrieving information of all cars in a specific location like Pune. Through SQL, we aim to streamline data management processes for improved efficiency. Consider the following entities & relationships,

- owner (License-no, Name, Address, Phone)
- car (Car No, Model, Color)
- Owners & Car Are Selected with One-to-many. Relationships, Create A RDB For the Above & Solve The Following Queries

- 1.Find The Name Of Owner Of 'Zen' & 'Indica'
- 2.Insert A Record Car.
3. List All The Models Of Owner 'Mahesh' Having Color 'Black'.
- 4.To List The Information Of All Cars In "Pune"

Inputs

Case Study 1:

```
Create table machine(  
machine_id int ,  
machine_name char(255) not null,  
machine_type char(255) not null,  
cost_of_machine int);
```

```
create table parts(  
parts_id int,  
part_name char(255) not null,  
part_desc text not null );
```

```
insert into machines  
(machine_id,machine_name,machine_type,cost_of_machine)  
values(101,"CNC MACHINE","Rotary Machine",1700000),  
(102,"VMC MACHINE","MILLINGMachine",2500000),  
(103,"DRILL MACHINE" ,"DRILLING HOLES",20000),  
(104,"EDM MACHINE","wire EDM",50000),  
(105,"blow moulding machine","hydraulic",2000000);
```

```
insert into parts  
(parts_id,part_name,part_desc)
```

```
values(211,"nuts and bolt","to permanently or semi-permanently
fasten materials, usually metal"),
(212," nuts and bolt","to permanently or semi-permanently fasten
materials, usually metal."),
(213," nuts and bolt","to permanently or semi-permanently fasten
materials, usually metal."),
(214,"wires","electricity connection"),
(215,"FRL","cleaning the impurites");
select * from machines;
select * from parts;
```

1.increase the cost of machine by 5%.

- UPDATE machines SET cost_of_machine =cost_of_machine*1.05;

2. Delete all machines having particular "wheel".

- delete from machines where machine_id in(select machine_id from parts where part_name="nuts and bolt");

3.list all the machine whose cost greater than 1 lakhs.

- select * from machines where cost_of_machine > 100000;

Case Study 2:

```
create table owner(
  licence_no varchar(255),
  name varchar(255),
  address text,
  phone char(10));
```



```
create table car(  
car_no varchar(55),  
model varchar(100),  
colour varchar(55));
```

```
insert into owner  
(licence_no,name,address,phone)  
values('AP29-AN-0074','Soham','AndhraPradesh','7746737863'),  
('UP64-W4-0388','Mahesh','Uttar Pradesh','454536778'),  
('JH05-AW-2117','Seeta','Jharkhand','4546462566'),  
('MH02-BM-4659','Leela','Pune','9588767542'),  
('TN-23-L-4547','Krishna','Telangana','454646789'),  
('MH20-BC-5122','Mahesh','Pune','9898984345'),  
('MP09-QP-1111','Swati','Madhyapradesh','7847589034');
```

```
insert into car  
(car_no,model,colour)  
values('AP29-AN-0074','Zen','Red'),  
('UP64-W4- 0388','Maruti','White'),  
('JH05-AW-2117','Indica','Black'),  
('MH02-BM-4659','Suzuki','Blue'),  
('TN-23-L-4547','Zen','Black'),  
('MH20-BC-5122','Zen','Black'),  
('MP09-QP-1111','Hyundai','Black');
```

select*from owner;

select*from car;

1.Find the name of owner of 'Zen' and 'Indica' car.

- select name from owner join car on car.car_no=owner.licence_no where car.model in('ZEN','INDICA');

2.List all the models of owner 'Mr.Mahesh' having colour 'Black'.

- select distinct model from car join owner on car.car_no=owner.licence_no where car.colour='black' and owner.name='MAHESH';

3.To list the information of all cars in 'Pune'.

- select distinct model from car join owner on car.car_no=owner.licence_no where owner.address='pune';

Output Screens:

Case Study 1:

Create table machine and parts

- ```
create table machines(
 machine_id int ,
 machine_name char(255) not null,
 machine_type char(255) not null,
 cost_of_machine int);
```
- ```
create table parts(  
    parts_id int,  
    part_name char(255) not null,  
    part_desc text not null );
```

Inserting values

- ```
insert into machines
(machine_id,machine_name,machine_type,cost_of_machine)
values(101,"CNC MACHINE","Rotary Machine",1700000),
(102,"VMC MACHINE","MILLINGMachine",2500000),
(103,"DRILL MACHINE" ,"DRILLING HOLES",20000),
(104,"EDM MACHINE","wire EDM",50000),
(105,"blow moulding machine","hydraulic",2000000);
```
  - ```
insert into parts  
(parts_id,part_name,part_desc)  
values(211,"nuts and bolt","to permanently or semi-permanently fasten materials, usually metal"),  
(212," nuts and bolt","to permanently or semi-permanently fasten materials, usually metal."),  
(213," nuts and bolt","to permanently or semi-permanently fasten materials, usually metal."),  
(214,"wires","electricity connection"),  
(215,"FRL","cleaning the impurities");
```
-

Display Data

- `select * from machines;`
- `select * from parts;`

	machine_id	machine_name	machine_type	cost_of_machine
►	101	CNC MACHINE	Rotary Machine	1700000
	102	VMC MACHINE	MILLINGMachine	2500000
	103	DRILL MACHINE	DRILLING HOLES	20000
	104	EDM MACHINE	wire EDM	50000
	105	blow moulding machine	hydraulic	2000000

	parts_id	part_name	part_desc
►	211	nuts and bolt	to permanently or semi-permanently fasten mat...
	212	nuts and bolt	to permanently or semi-permanently fasten mat...
	213	nuts and bolt	to permanently or semi-permanently fasten mat...
	214	wires	electricity connection
	215	FRL	cleaning the impurities

1.increase the cost of machine by 5%.

- `UPDATE machines`
`SET cost_of_machine =cost_of_machine*1.05;`

Output

	machine_id	machine_name	machine_type	cost_of_machine
►	101	CNC MACHINE	Rotary Machine	1785000
	102	VMC MACHINE	MILLINGMachine	2625000
	103	DRILL MACHINE	DRILLING HOLES	21000
	104	EDM MACHINE	wire EDM	52500
	105	blow moulding machine	hydraulic	2100000

2.delete all machine having particular "wheel".

- `delete from machines
where machine_id in(select machine_id from parts where part_name="nuts and bolt");`

3.list all the machine whose cost greater than 1 lakhs.

- `select * from machines
where cost_of_machine > 100000;`

Output

	machine_id	machine_name	machine_type	cost_of_machine
▶	101	CNC MACHINE	Rotary Machine	1785000
	102	VMC MACHINE	MILLINGMachine	2625000
	105	blow moulding machine	hydraulic	2100000

Case Study 2:

Create table owner and car

- `create table owner(
licence_no varchar(255),
name varchar(255),
address text,
phone char(10));`

- `create table car(
 car_no varchar(55),
 model varchar(100),
 colour varchar(55));`

Inserting values

- `insert into owner
(licence_no,name,address,phone)
values('AP29-AN-0074','Soham','AndhraPradesh','7746737863'),
('UP64-W4-0388','Mahesh','Uttar Pradesh','454536778'),
('JH05-AW-2117','Seeta','Jharkhand','4546462566'),
('MH02-BM-4659','Leela','Pune','9588767542'),
('TN-23-L-4547','Krishna','Telangana','454646789'),
('MH20-BC-5122','Mahesh','Pune','9898984345'),
('MP09-QP-1111','Swati','Madhyapradesh','7847589034');`
- `insert into car
(car_no,model,colour)
values('AP29-AN-0074','Zen','Red'),
('UP64-W4-0388','Maruti','White'),
('JH05-AW-2117','Indica','Black'),
('MH02-BM-4659','Suzuki','Blue'),
('TN-23-L-4547','Zen','Black'),
('MH20-BC-5122','Zen','Black'),
('MP09-QP-1111','Hyundai','Black');`

Display Data

- `select * from owner;`
- `select * from car;`

	licence_no	name	address	phone
▶	AP29-AN 0074	Soham	AndhraPradesh	7746737863
	UP64-W4-0388	Mahesh	Uttar Pradesh	454536778
	JH05-AW 2117	Seeta	Jharkhand	4546462566
	MH02-BM-4659	Leela	Pune	9588767542
	TN-23-L 4547	Krishna	Telangana	454646789
	MH20-BC-5122	Mahesh	Pune	9898984345
	MP09-QP 1111	Swati	Madhyapradesh	7847589034

	car_no	model	colour
▶	AP29-AN-0074	Zen	Red
	UP64-W4-0388	Maruti	White
	JH05-AW-2117	Indica	Black
	MH02-BM-4659	Suzuki	Blue
	TN-23-L-4547	Zen	Black
	MH20-BC-5122	Zen	Black
	MP09-QP 1111	Hyundai	Black

1. Find The Name Of Owner Of 'Zen' & 'Indica'.

- `select name, licence_no from owner
join car on car.car_no=owner.licence_no
where car.model in('ZEN','INDICA');`

Output

	name	licence_no
▶	Soham	AP29-AN-0074
	Seeta	JH05-AW-2117
	Krishna	TN-23-L-4547
	Mahesh	MH20-BC-5122

2.List All The Models Of Owner 'Mahesh' Having Color 'Black'.

- ```
select distinct model
from car
join owner on car.car_no=owner.licence_no
where car.colour='black' and owner.name='MAHESH';
```

### Output

|   | model |
|---|-------|
| ▶ | Zen   |

## 3.To List The Information Of All Cars In “Pune”.

- ```
select distinct model from car
join owner on car.car_no=owner.licence_no
where owner.address='pune';
```

Output

	model
▶	Suzuki
	Zen

CONCLUSION

This module has presented all the basic hurdles to using and understanding SQL. You should understand, play with, and feel comfortable with these statements because you will use them constantly when you work with an SQL database system. You will be using the SELECT statement in extracting the information needed for the class project. It's the core of most of the work you will be doing with SQL. It would be a good idea to review this module before continuing. From here, we will build on the SELECT statement and show how you can do more advanced database queries. The balance of the language is built on the INSERT, SELECT, UPDATE, and DELETE statements.

SQL statements let you perform simple tasks with a database such as creating a new table or inserting a record. By combining many SQL statements into a script, you can perform elaborate procedures such as creating and initializing a database from scratch. It describes the benefits of using scripts to create databases and discusses some of the issues that you should understand before writing those scripts.

FUTURE SCOPE

- SQL Server Integration Services (SSIS): This service helps you with the integration of multiple databases, database objects and entities as per your requirement.
- Microsoft SQL Server: This is the most difficult yet intriguing job for an SQL developer where he has to work on server performance, integrity as well as server maintenance. This is one of the highly paid SQL Developer skills where developers get attractive remuneration and other opportunities too.
- Analytical skills: Developers must analyze and understand the needs of the user and then design the software accordingly to meet those needs.
- Creativity: Developers must be creative enough to find new solutions to conventional problems.
- Detail-oriented: Developers usually work on several parts of an application or system simultaneously and therefore must be able to focus and pay attention to even the minute details.
- Interpersonal skills: Developers must be able to work in harmony with others who help in developing and creating successful software.
- Problem-solving skills: Since developers are in charge of software from beginning to end, they should be capable of solving problems that may occur along the design process.
- Communication skills: Developers must be capable of giving able to give clear instructions to their teammates. They should also be able to explain to their customers how the software works and answer any queries that arise

REFERENCES

- www.Youtube.com
- <http://www.sololearn.com>
- <http://www.w3school.com>
- <https://www.google.com>