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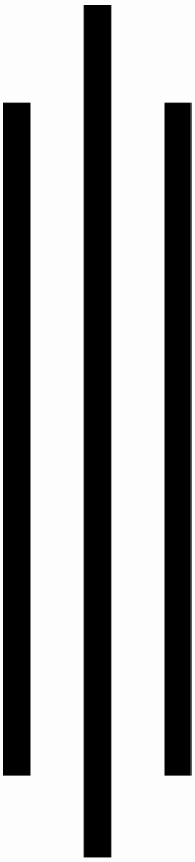

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Lab Report Title: Basic SQL queries

Submitted by: Submitted to:

Roll number: Department of BCA

BCA 4th Semester Submission Date:

OBJECTIVES

- To learn basic SQL operations through DDL, DML & DQL commands
- To work with Microsoft's SQL Server relational database

THEORY

Databases are an integral part of the IT industry, allowing developers to organize large amounts of data & perform operations. This data may be customer info, inventory records & much more. Database Management Systems (DBMS) are software allowing us to interact with, view & modify databases.

There are different implementations of DBMS, with Relational being a popular and easy-to-use one. Data is organized into relations(tables) with columns representing attributes & rows representing different records. For the purposes of this lab, we used SQL Server, Microsoft's own RDBMS. Similar results can be achieved with other RDBMSs as they all use the Structured Query Language(SQL) programming language.

SQL commands are categorized based on their function. The 3 basic categories we learned were:

- Data Definition Language (DDL): to create, modify database objects, > schema
- Data Manipulation Language (DML): to add, modify data inside objects
- Data Query Language (DQL): to retrieve data

LAB WORK

Create a database HCOE2077 & create tables with the following schema:
- Student (id, name, rn, batch)
- Teacher (tid, name, faculty)

1. Insert any 5 records in each table

```
use HCOE2077

insert into student(id, name, rn, batch) values(1, 'Sujal', 1, 2077),
(2, 'Rajan', 2, 2077),
(3, 'Anish', 3, 2075),
(4, 'Chandra', 4, 2076),
(5, 'Adish', 5, 2076)

insert into teacher(tid, name, faculty) values(1, 'Mukunda', 'BCA'),
(1, 'Raj', 'BCA'),
(1, 'Bipul', 'BIT'),
(1, 'Nikesh', 'BIT'),
(1, 'Rajesh', 'BSc. CSIT')
```

2. Display all records

```
select * from student
select * from teacher
```

Output:

	id	name	rn	batch
1	1	Sujal	1	2077
2	2	Rajan	2	2077
3	3	Anish	3	2075
4	4	Chandra	4	2076
5	5	Adish	5	2076

	tid	name	faculty
1	1	Mukunda	BCA
2	1	Raj	BCA
3	1	Bipul	BIT
4	1	Nikesh	BIT
5	1	Rajesh	BSc. CSIT

3. Display only id & name from student table
4. Display name & faculty from teacher

```
use HCOE2077
select id, name from student
select name, faculty from teacher
```

Output:

	id	name
1	1	Sujal
2	2	Rajan
3	3	Anish
4	4	Chandra
5	5	Adish

	name	faculty
1	Mukunda	BCA
2	Raj	BCA
3	Bipul	BIT
4	Nikesh	BIT
5	Rajesh	BSc. CSIT

5. Remove ‘rn’ attribute from student

```
alter table student drop column rn
```

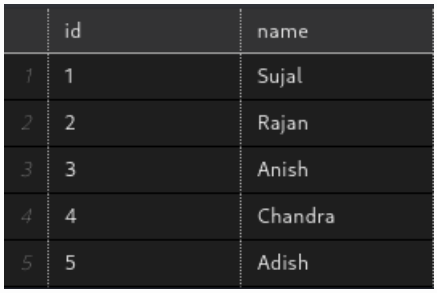
6. Add ‘salary’ attribute to teacher relation

```
alter table teacher add salary int
```

7. Copy id & name attribute to new relation info_student

```
select id, name into info_student from student
select * from info_student
```

Output:



	id	name
1	1	Sujal
2	2	Rajan
3	3	Anish
4	4	Chandra
5	5	Adish

8. Delete all contents from info-student relation

```
delete from info_student
```

CONCLUSION

Thus, we were introduced to using databases. We learned to create relations, store data in them, & modify both tables & their data using appropriate SQL commands.