Assignment No. 1

COSC2307006-Database Programming

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Section: P(006)

Activity 1:

Methodology:

To do this activity, we need to create a table and insert the given values in it. So, to create a table we used CREATE TABLE Student syntax and inside the '()' this bracket we added the required column name such as stdId, stdName, sex, etc. Then to add the rows with the required value mentioned In the question we used INSERT INTO Student and VALUE syntax. Since none of the cell were null do we did had to mention the arrangement of table. We repeated same for each and every row.

Query:

```
CREATE TABLE Student (

StdID INT PRIMARY KEY,

StdName VARCHAR(30) NOT NULL,

Sex VARCHAR(10),

Percentage DECIMAL(5,2),

SClass INT ,

Sec VARCHAR(1),

Stream VARCHAR(10),

DOB DATE

);


INSERT INTO Student VALUES (1001, 'AKSHRA AGARWAL','FEMALE',70,11,'A','Science', '1996-11-10');

INSERT INTO Student VALUES (1002,'ANJANI SHARMA','FEMALE',75,11,'A','Commerce','1996-09-18');

INSERT INTO Student VALUES (1003,'ANSHUL SAXENA','MALE',78,11,'A','Commerce','1996-11-19');

INSERT INTO Student VALUES (1004,'ALSHWARYA SINGH','FEMALE',79,11,'A','Commerce','1996-11-1');

INSERT INTO Student VALUES (1005,'AKRITI SAXENA','FEMALE',76,11,'A','Commerce','1996-09-20');
```

```
INSERT INTO Student VALUES (1006,'KHUSHI AGARWAL','FEMALE',77,11,'A','Commerce','2003-09-14');

INSERT INTO Student VALUES (1007,'MAAHI AGARWAL','FEMALE',74,11,'A','Science','1997-04-21');

INSERT INTO Student VALUES (1008,'MITALI GUPTA','FEMALE',78,12,'A','Science','1997-11-26');

INSERT INTO Student VALUES (1009,'NIKUNJ AGARWAL','MALE',58,12,'A','Science','1997-07-12');

INSERT INTO Student VALUES (1010,'PARKHI','FEMALE',59,12,'A','Commerce','1997-12-20');

INSERT INTO Student VALUES (1011,'PRAKHAR TIWARI','MALE',43,12,'A','Science','1997-04-22');

INSERT INTO Student VALUES (1012,'RAGHAV GANGWAR','MALE',58,12,'A','Commerce','1997-12-21');

INSERT INTO Student VALUES (1013,'SAHIL SARASWAT','MALE',57,12,'A','Commerce','1997-08-13');

INSERT INTO Student VALUES (1014,'SWATI MISHRA','FEMALE',98,11,'A','Science','1996-08-13');

INSERT INTO Student VALUES (1015,'HARSH AGARWAL','MALE',58,11,'B','Science','2003-08-28');

INSERT INTO Student VALUES (1016,'HARSHIT KUMAR','MALE',98,11,'B','Science','2003-05-22');

INSERT INTO Student VALUES (1017,'JAHANVI KAPOOR','MALE',65,11,'B','Science','1997-01-10');

INSERT INTO Student VALUES (1018,'STUTI MISHRA','MALE',66,11,'C','Commerce','1996-01-10');

INSERT INTO Student VALUES (1019,'SURYANSH KUMAR AGARWAL','MALE',85,11,'C','Commerce','2007-08-22');

INSERT INTO Student VALUES (1020,'TANI RASTOGI','FEMALE',75,12,'C','Commerce','1998-01-15');

INSERT INTO Student VALUES (1021,'TANISHK GUPTA','MALE',55,12,'C','Science','1998-04-11');

INSERT INTO Student VALUES (1022,'TANMAY AGARWAL','MALE',57,11,'C','Commerce','1998-06-28');

INSERT INTO Student VALUES (1023,'YASH SAXENA','MALE',79,11,'C','Science','1998-03-13');

INSERT INTO Student VALUES (1024,'YESH DUBEY','MALE',85,12,'C','Commerce','1998-04-03');
```

Select * from Student;

Output:

```
Commands completed successfully.

Completion time: 2025-02-06T22:41:31.0655651-08:00
```

```
(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)
```

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1	1001	AKSHRA AGARWAL	FEMALE	70.00	11	A	Science	1996-11-10
2	1002	ANJANI SHARMA	FEMALE	75.00	11	A	Com...	1996-09-18
3	1003	ANSHUL SAXENA	MALE	78.00	11	A	Com...	1996-11-19
4	1004	ALSHWARYA SIN...	FEMALE	79.00	11	A	Com...	1996-11-01
5	1005	AKRITI SAXENA	FEMALE	76.00	11	A	Com...	1996-09-20
6	1006	KHUSHI AGARWAL	FEMALE	77.00	11	A	Com...	2003-09-14
7	1007	MAAHI AGARWAL	FEMALE	74.00	11	A	Science	1997-04-21
8	1008	MITALI GUPTA	FEMALE	78.00	12	A	Science	1997-11-26
9	1009	NIKUNJ AGARWAL	MALE	58.00	12	A	Science	1997-07-12
10	1010	PARKHI	FEMALE	59.00	12	A	Com...	1997-12-20
11	1011	PRAKHAR TIWARI	MALE	43.00	12	A	Science	1997-04-22
12	1012	RAGHAV GANGW...	MALE	58.00	12	A	Com...	1997-12-21
13	1013	SAHIL SARASWAT	MALE	57.00	12	A	Com...	1997-08-13
14	1014	SWATI MISHRA	FEMALE	98.00	11	A	Science	1996-08-13
15	1015	HARSH AGARWAL	MALE	58.00	11	B	Science	2003-08-28
16	1016	HARSHIT KUMAR	MALE	98.00	11	B	Science	2003-05-22
17	1017	JAHANVI KAPOOR	MALE	65.00	11	B	Science	1997-01-10
18	1018	STUTI MISHRA	MALE	66.00	11	C	Com...	1996-01-10
19	1019	SURYANSH KUM...	MALE	85.00	11	C	Com...	2007-08-22
20	1020	TANI RASTOGI	FEMALE	75.00	12	C	Com...	1998-01-15
21	1021	TANISHK GUPTA	MALE	55.00	12	C	Science	1998-04-11
22	1022	TANMAY AGARWAL	MALE	57.00	11	C	Com...	1998-06-28
23	1023	YASH SAXENA	MALE	79.00	11	C	Science	1998-03-13
24	1024	YESH DUBEY	MALE	85.00	12	C	Com...	1998-04-03

Conclusion:

Hence we can use CREATE TABLE and INSERT INTO table_name to create a table and insert the desired values respectively.

Activity 2: Open school database, then select student table and use following SQL statements.
TYPE THE STATEMENT, PRESS ENTER AND NOTE THE OUTPUT

1 To display all the records form STUDENT table.

```
SELECT * FROM student ;
```

2. To display ony name and date of birth from the table STUDENT.

```
SELECT StdName, DOB FROM student ;
```

3. To display all students record where percentage is greater of equal to 80 FROM student table.

```
SELECT * FROM student WHERE percentage >= 80;
```

4. To display student name, stream and percentage where percentage of student is more than 80

```
SELECT StdName, Stream, Percentage WHERE percentage > 80;
```

5. To display all records of science students whose percentage is more than 75 form student table.

```
SELECT * FORM student WHERE stream = 'Science' AND percentage > 75;
```

Methodology:

To do this activity we just had to follow the given steps. In this activity mostly SELECT FROM syntax were used. They are used to selecting which tables to show in our output and from which table to show output from. And WHERE is used to provide specific conditions to see the required rows.

Query:

SELECT * FROM Student;

SELECT StdName, DOB FROM Student ;

SELECT * FROM Student WHERE percentage >= 80;

SELECT StdName, Stream, Percentage FROM Student WHERE percentage >80;

SELECT * FROM Student Where stream = 'Science' AND percentage > 75;

Output:

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1	1001	AKSHRA AGARWAL	FEMALE	70.00	11	A	Science	1996-11-10
2	1002	ANJANI SHARMA	FEMALE	75.00	11	A	Commerce	1996-09-18
3	1003	ANSHUL SAXENA	MALE	78.00	11	A	Commerce	1996-11-19
4	1004	ALSHWARYA SINGH	FEMALE	79.00	11	A	Commerce	1996-11-01
5	1005	AKRITI SAXENA	FEMALE	76.00	11	A	Commerce	1996-09-20
6	1006	KHUSHI AGARWAL	FEMALE	77.00	11	A	Commerce	2003-09-14
7	1007	MAAHI AGARWAL	FEMALE	74.00	11	A	Science	1997-04-21
8	1008	MITALI GUPTA	FEMALE	78.00	12	A	Science	1997-11-26

	StdName	DOB
1	AKSHRA AGARWAL	1996-11-10
2	ANJANI SHARMA	1996-09-18
3	ANSHUL SAXENA	1996-11-19
4	ALSHWARYA SINGH	1996-11-01
5	AKRITI SAXENA	1996-09-20
6	KHUSHI AGARWAL	2003-09-14
7	MAAHI AGARWAL	1997-04-21
8	MITALI GUPTA	1997-11-26
9	NIKUNJ AGARWAL	1997-07-12
10	PARKHI	1997-12-20
11	PRAKHAR TIWARI	1997-04-22
12	RAGHAV GANGWAR	1997-12-21
13	SAHIL SARASWAT	1997-08-13
14	SWATI MISHRA	1996-08-13
15	HARSH AGARWAL	2003-08-28
16	HARSHIT KUMAR	2003-05-22
17	JAHANVI KAPOOR	1997-01-10
18	STUTI MISHRA	1996-01-10
19	SURYANSH KUMA...	2007-08-22
20	TANI RASTOGI	1998-01-15
21	TANISHK GUPTA	1998-04-11
22	TANMAY AGARWAL	1998-06-28
23	YASH SAXENA	1998-03-13
24	YESH DUBEY	1998-04-03

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1	1014	SWATI MISHRA	FEMALE	98.00	11	A	Science	1996-08-13
2	1016	HARSHIT KUMAR	MALE	98.00	11	B	Science	2003-05-22
3	1019	SURYANSH KUMAR AGARWAL	MALE	85.00	11	C	Commerce	2007-08-22
4	1024	YESH DUBEY	MALE	85.00	12	C	Commerce	1998-04-03

	StdName	Stream	Percentage
1	SWATI MISHRA	Science	98.00
2	HARSHIT KUMAR	Science	98.00
3	SURYANSH KUMAR AGARWAL	Commerce	85.00
4	YESH DUBEY	Commerce	85.00

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1	1008	MITALI GUPTA	FEMALE	78.00	12	A	Science	1997-11-26
2	1014	SWATI MISHRA	FEMALE	98.00	11	A	Science	1996-08-13
3	1016	HARSHIT KU...	MALE	98.00	11	B	Science	2003-05-22
4	1023	YASH SAXENA	MALE	79.00	11	C	Science	1998-03-13

Conclusion:

Hence, we can use select, from and where to select the column to display, select the table to display and give the required conditions respectively.

Activity 3: Open school database, then select student table and use following SQL statements.
TYPE THE STATEMENT, PRESS ENTER AND NOTE THE OUTPUT

1. To display the STUDENT table structure.

```
DESCRIBE Student;
```

2. To add a column (FIELD) in the STUDENT table, for example TeacherID as VARCHAR(20);

```
ALTER TABLE Student ADD TeacherID VARCHAR(20);
```

3. Type the statement

```
DESC Student;
```

Press enter key, now note the difference in table structure.

4. Type the statement and press enter key, note the new field that you have added as TeacherID

```
SELECT * FROM student;
```

5. To modify the TeacherID data type form character to integer.

```
ALTER TABLE Student MODIFY TeacherID INTEGER ;
DESC Student;
SELECT * FROM student;
```

Methodology:

To complete this activity, we had to follow the given steps just like before. But DESCRIBE function is not working in my sql program so I used EXC sp_help 'Student'. ALTER TABLE helps us to alter the table by adding one more column, changing name or removing column.

Query:

```
EXEC sp_help 'Student';

ALTER TABLE Student Add TeacherID VARCHAR(20);

EXEC sp_help 'Student';

SELECT * FROM Student;

ALTER TABLE Student ALTER COLUMN TeacherID INTEGER;

EXEC sp_help 'Student';
```

SELECT * FROM Student;

Outputs:

	Name	Owner	Type	Created_datetime
1	Student	dbo	user table	2025-02-06 22:41:31.043

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
1	StdID	int	no	4	10	0	no	(n/a)	(n/a)	NULL
2	StdName	varchar	no	30			no	no	no	SQL_Latin1_General_CP1_CI_AS
3	Sex	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
4	Percentage	decimal	no	5	5	2	yes	(n/a)	(n/a)	NULL
5	SClass	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
6	Sec	varchar	no	1			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
7	Stream	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
8	DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL

	Identity	Seed	Increment	Not For Replication
1	No identity column defined.	NULL	NULL	NULL

	RowGuidCol
1	No rowguidcol column defined.

	Data_located_on_filegroup
1	PRIMARY

	index_name	index_description	index_keys
1	PK__Student__55DCAE3FEEEBFED5	clustered, unique, primary key located on PRIMARY	StdID

	constraint_type	constraint_name	delete_action	update_action	status_enabled	status_for_replication	constraint_keys
1	PRIMARY KEY (clustered)	PK__Student__55DCAE3FEEEBFED5	(n/a)	(n/a)	(n/a)	(n/a)	StdID

	Name	Owner	Type	Created_datetime
1	Student	dbo	user table	2025-02-06 22:41:31.043

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
2	StdName	varchar	no	30			no	no	no	SQL_Latin1_General_CP1_CI_AS
3	Sex	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
4	Percentage	decimal	no	5	5	2	yes	(n/a)	(n/a)	NULL
5	SClass	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
6	Sec	varchar	no	1			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
7	Stream	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
8	DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
9	TeacherID	varchar	no	20			yes	no	yes	SQL_Latin1_General_CP1_CI_AS

	Identity	Seed	Increment	Not For Replication
1	No identity column defined.	NULL	NULL	NULL

	RowGuidCol
1	No rowguidcol column defined.

	Data_located_on_filegroup
1	PRIMARY

	index_name	index_description	index_keys
1	PK__Student__55DCAE3FEEEBFED5	clustered, unique, primary key located on PRIMARY	StdID

	constraint_type	constraint_name	delete_action	update_action	status_enabled	status_for_replication	constraint_keys
1	PRIMARY KEY (clustered)	PK__Student__55DCAE3FEEEBFED5	(n/a)	(n/a)	(n/a)	(n/a)	StdID

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB	TeacherID
1	1001	AKSHRA AGARWAL	FEMALE	70.00	11	A	Science	1996-11-10	NULL
2	1002	ANJANI SHARMA	FEMALE	75.00	11	A	Commerce	1996-09-18	NULL
3	1003	ANSHUL SAXENA	MALE	78.00	11	A	Commerce	1996-11-19	NULL
4	1004	ALSHWARYA SINGH	FEMALE	79.00	11	A	Commerce	1996-11-01	NULL
5	1005	AKRITI SAXENA	FEMALE	76.00	11	A	Commerce	1996-09-20	NULL
6	1006	KHUSHI AGARWAL	FEMALE	77.00	11	A	Commerce	2003-09-14	NULL
7	1007	MAAHI AGARWAL	FEMALE	74.00	11	A	Science	1997-04-21	NULL
8	1008	MITALI GUPTA	FEMALE	78.00	12	A	Science	1997-11-26	NULL

	Name	Owner	Type	Created_datetime
1	Student	dbo	user table	2025-02-06 22:41:31.043

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
2	StdName	varchar	no	30			no	no	no	SQL_Latin1_General_CP1_CI_AS
3	Sex	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
4	Percentage	deci...	no	5	5	2	yes	(n/a)	(n/a)	NULL
5	SClass	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
6	Sec	varchar	no	1			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
7	Stream	varchar	no	10			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
8	DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
9	TeacherID	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

Conclusion:

Hence, we can use EXEC sp_help, ALTER TABLE to get to know more about table and make some changes in table respectively.

Activity 4

1. To Drop (Delete) a field form a table. For e.g you want to delete TeacherID field.

```
ALTER TABLE Student DROP TeacherID;
```

2. To subtract 5 form all students percentage and display name and percentage.

```
SELECT name, percentage - 5 FROM Student;
```

3. Using column alise for example we want to display StdName as Student Name and DOB as Date of Birth then the statement will be.

```
SELECT StdName AS "Student Name",
      DOB As "Date of Birth"  FROM Student;
```

4. Display the name of all students whose stream is not Science

```
SELECT StdName FROMstudent
WHERE Stream <>'Science';
```

5. Display all name and percentage where percentage is between 60 and 80

```
SELECT StdName, percentage FROM student WHERE percentage >=60 AND
percentage<=80 ;
```

Methodology:

To do this activity, we used the functions we discussed before like SELECT, ALTER TABLE, FROM, WHERE. Here we used them to remove a column that we added before named TeacherID. Show the table with 5 less percentage of every student, show the table with different column name, show

students who were not enrolled in science and the students who had percentage over 60 and below 80.

Query:

```
ALTER TABLE Student DROP TeacherID;

SELECT StdName, Percentage-5 FROM Student;

SELECT StdName AS "Student Name", DOB AS "Date of Birth" FROM Student;

SELECT StdName From Student

Where Stream <> 'Science';

SELECT StdName, Percentage FROM Student

WHERE Percentage >=60 AND Percentage <+ 80;
```

Outputs:

	StdName	(No column name)
1	AKSHRA AGARWAL	65.00
2	ANJANI SHARMA	70.00
3	ANSHUL SAXENA	73.00
4	ALSHWARYA SINGH	74.00
5	AKRITI SAXENA	71.00
6	KHUSHI AGARWAL	72.00
7	MAAHI AGARWAL	69.00
8	MITALI GUPTA	73.00
9	NIKUNJ AGARWAL	53.00
10	PARKHI	54.00
11	PRAKHAR TIWARI	38.00
12	RAGHAV GANGWAR	53.00
13	SAHIL SARASWAT	52.00
14	SWATI MISHRA	93.00
15	HARSH AGARWAL	53.00
16	HARSHIT KUMAR	93.00
17	JAHANVI KAPOOR	60.00
18	STUTI MISHRA	61.00
19	SURYANSH KUMA...	80.00
20	TANI RASTOGI	70.00
21	TANISHK GUPTA	50.00
22	TANMAY AGARWAL	52.00
23	YASH SAXENA	74.00
24	YESH DUBEY	80.00

	Student Name	Date of Birth
1	AKSHRA AGARWAL	1996-11-10
2	ANJANI SHARMA	1996-09-18
3	ANSHUL SAXENA	1996-11-19
4	ALSHWARYA SINGH	1996-11-01
5	AKRITI SAXENA	1996-09-20
6	KHUSHI AGARWAL	2003-09-14
7	MAAHI AGARWAL	1997-04-21
8	MITALI GUPTA	1997-11-26

	StdName
1	ANJANI SHARMA
2	ANSHUL SAXENA
3	ALSHWARYA SI...
4	AKRITI SAXENA
5	KHUSHI AGARW...
6	PARKHI
7	RAGHAV GANG...
8	SAHIL SARASWAT
9	STUTI MISHRA
10	SURYANSH KU...
11	TANI RASTOGI
12	TANMAY AGAR...
13	YESH DUBEY

	StdName	Percentage
1	AKSHRA AGARWAL	70.00
2	ANJANI SHARMA	75.00
3	ANSHUL SAXENA	78.00
4	ALSHWARYA SINGH	79.00
5	AKRITI SAXENA	76.00
6	KHUSHI AGARWAL	77.00
7	MAAHI AGARWAL	74.00
8	MITALI GUPTA	78.00
9	JAHANVI KAPOOR	65.00
10	STUTI MISHRA	66.00
11	TANI RASTOGI	75.00
12	YASH SAXENA	79.00

Conclusion:

In conclusion, the code performs various SQL operations on the Student table, such as removing the TeacherID column, adjusting and displaying student percentages, renaming columns for better readability, and filtering students based on their stream and percentage ranges.

Activity 5:

1. To change a student name from SWATIMISHRA to SWATI VERMA whose StdID is 1014 and also change percentage 86.

```
UPDATE Student SET StdName = 'SWATI VERMA', percentage = 86
WHERE StdId = 1014;
```

2. To delete the records form student table where StdId is 1016.

```
DELETE FROM Student WHERE StdID = 1016;
```

3. Type the following SQL statement and note the output.

```
SELECT * FROM Student WHERE StdName LIKE 'G_' ;
SELECT * FROM Student WHERE StdName='G';
SELECT * FROM Student WHERE StdName LIKE 'G%' ;
SELECT * WHERE Student WHERE StdName='%G%' ;
```

4. Display all the streams in student table.

```
SELECT DISTINCT Stream FROM Student;
```

5. Note the output of the following statement.

```
SELECT StdName, Sex, Stream FROM Student WHERE percentage BETWEEN 70 AND 80;
```

Methodology:

To do this activity, updates and deletions are applied using UPDATE and DELETE statements based on specific StdID conditions, while various SELECT queries are used to filter and retrieve data based on patterns in StdName, percentage ranges, and unique streams using LIKE, BETWEEN, and DISTINCT clauses. This ensures precise data adjustments and targeted retrieval for analysis.

Query:

```
UPDATE Student SET StdName='SWATI VERMA', Percentage = 86

WHERE StdID=1014;

DELETE FROM Student WHERE StdID=1016;

SELECT * FROM Student WHERE StdName LIKE 'G_';

SELECT * FROM Student WHERE StdName like 'G';

SELECT * FROM Student WHERE StdName  LIKE 'G%';

SELECT * FROM Student WHERE StdName Like '%G%';

SELECT DISTINCT Stream FROM Student;

SELECT StdName, Sex, Stream FROM Student WHERE Percentage BETWEEN 70 AND 80;
```

Outputs:

StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB	TeacherID

StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB	TeacherID

StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB	TeacherID

	StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB	TeacherID
1	1001	AKSHRA AGARWAL	FEMALE	70.00	11	A	Science	1996-11-10	NULL
2	1004	ALSHWARYA SINGH	FEMALE	79.00	11	A	Commerce	1996-11-01	NULL
3	1006	KHUSHI AGARWAL	FEMALE	77.00	11	A	Commerce	2003-09-14	NULL
4	1007	MAAHI AGARWAL	FEMALE	74.00	11	A	Science	1997-04-21	NULL
5	1008	MITALI GUPTA	FEMALE	78.00	12	A	Science	1997-11-26	NULL
6	1009	NIKUNJ AGARWAL	MALE	58.00	12	A	Science	1997-07-12	NULL
7	1012	RAGHAV GANGWAR	MALE	58.00	12	A	Commerce	1997-12-21	NULL
8	1015	HARSH AGARWAL	MALE	58.00	11	B	Science	2003-08-28	NULL
9	1019	SURYANSH KUMA...	MALE	85.00	11	C	Commerce	2007-08-22	NULL
10	1020	TANI RASTOGI	FEMALE	75.00	12	C	Commerce	1998-01-15	NULL
11	1021	TANISHK GUPTA	MALE	55.00	12	C	Science	1998-04-11	NULL
12	1022	TANMAY AGARWAL	MALE	57.00	11	C	Commerce	1998-06-28	NULL

	Stream
1	Commerce
2	Science

	StdName	Sex	Stream
1	AKSHRA AGARWAL	FEMALE	Science
2	ANJANI SHARMA	FEMALE	Commerce
3	ANSHUL SAXENA	MALE	Commerce
4	ALSHWARYA SINGH	FEMALE	Commerce
5	AKRITI SAXENA	FEMALE	Commerce
6	KHUSHI AGARWAL	FEMALE	Commerce
7	MAAHI AGARWAL	FEMALE	Science
8	MITALI GUPTA	FEMALE	Science
9	TANI RASTOGI	FEMALE	Commerce
10	YASH SAXENA	MALE	Science

Conclusion:

Hence, update, deletions, and retrieval operations can be done in sql programming with the help of UPDATE, DELETE, SELECT function.

Do Yourself:

Create a Table **Empl** to store employee details as shown below and write statements for following queries based on the table.

empno	ename	job	mgr	hiredate	sal	comm	deptno
8369	SMITH	CLERK	8902	1990-12-18	800.00	NULL	20
8499	ANYA	SALESMAN	8698	1991-02-20	1600.00	300.00	30
8521	SETH	SALESMAN	8698	1991-02-22	1250.00	500.00	30
8566	MAHADEVAN	MANAGER	8839	1991-04-02	2985.00	NULL	20
8654	MOMIN	SALESMAN	8698	1991-09-28	1250.00	1400.00	30
8698	BINA	MANAGER	8839	1991-05-01	2850.00	NULL	30
8882	SHIVANSH	MANAGER	8839	1991-06-09	2450.00	NULL	10
8888	SCOTT	ANALYST	8566	1992-12-09	3000.00	NULL	20
8839	AMIR	PRESIDENT	NULL	1991-11-18	5000.00	NULL	10
8844	KULDEEP	SALESMAN	8698	1991-09-08	1500.00	0.00	30

Methodology:

To do this question we used all of the function in sql above for example to create this table we used CREATE TABLE, and to add the information we used INSERT INTO function. Then to complete the given questions we used commands like SELECT, FROM, WHERE, ISNULL functions.

Query:

a. SELECT ename,sal FROM Empl WHERE sal>=2200;
b. SELECT * FROM Empl WHERE comm is null;
c. SELECT ename,sal FROM Empl WHERE sal<=2500 OR sal>=4000;
d. SELECT ename,job,sal FROM Empl WHERE mgr is null;
e. SELECT * FROM Empl WHERE ename LIKE '__A%';
f. SELECT * FROM Empl WHERE ename LIKE '%T';
g. SELECT * FROM Empl WHERE ename LIKE 'M%L';
h. SELECT empno,ename,job,mgr,hiredate,sal,deptno,ISNULL(comm, 'Not given') AS comm FROM Empl;

Outputs:

	ename	sal
1	MAHADEVAN	2985
2	BINA	2850
3	AMIR	5000
4	SHIVANSH	2450
5	SCOTT	3000

	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	8369	SMITH	Clerk	8902	1990-12-18	800	NULL	20
2	8566	MAH...	MANAGER	8839	1991-04-02	2985	NULL	20
3	8698	BINA	MANAGER	8839	1991-05-01	2850	NULL	30
4	8839	AMIR	PRESID...	NU...	1991-11-18	5000	NULL	10
5	8844	KUL...	SALESM...	8698	1991-09-08	1500	NULL	30
6	8882	SHIV...	MANAGER	8839	1991-06-09	2450	NULL	10
7	8888	SCOTT	ANALYST	8566	1992-12-09	3000	NULL	20

	ename	sal
1	SMITH	800
2	ANYA	1600
3	SETH	1250
4	MOM...	1250
5	AMIR	5000
6	KUL...	1500
7	SHIV...	2450

	ename	job	sal
1	AMIR	PRESIDENT	5000

	empno	ename	job	mgr	hiredate	sal	comm	deptno

	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	8888	SCOTT	ANALYST	8566	1992-12-09	3000	NULL	20

empno	ename	job	mgr	hiredate	sal	comm	deptno

	empno	ename	job	mgr	hiredate	sal	deptno	comm
1	8369	SMITH	Clerk	8902	1990-12-18	800	20	Not given
2	8499	ANYA	SALESMAN	8698	1991-02-08	1600	30	300.00
3	8521	SETH	SALESMAN	8698	1991-02-22	1250	30	500.00
4	8566	MAH...	MANAGER	8839	1991-04-02	2985	20	Not given
5	8654	MOM...	SALESMAN	8698	1991-09-28	1250	30	1400.00
6	8698	BINA	MANAGER	8839	1991-05-01	2850	30	Not given
7	8839	AMIR	PRESIDE...	NU...	1991-11-18	5000	10	Not given
8	8844	KUL...	SALESMAN	8698	1991-09-08	1500	30	Not given
9	8882	SHIV...	MANAGER	8839	1991-06-09	2450	10	Not given
10	8888	SCOTT	ANALYST	8566	1992-12-09	3000	20	Not given

Conclusion:

Hence, we can use SELECT,FROM,WHERE,CREATE TABLE, INSERT INTO functions to create and view the table and these are the most used functions in sql programming.

Thank you....