

Lab 1: Use of Single Table

```
CREATE DATABASE Lab1;
```

```
USE Lab1;
```

```
CREATE TABLE STUDENT (
```

```
    SID INT PRIMARY KEY,
```

```
    SNAME VARCHAR(25),
```

```
    GENDER CHAR(1),
```

```
    AGE INT,
```

```
    CLASS VARCHAR(20),
```

```
    MARKS INT,
```

```
    EMAIL VARCHAR(30),
```

```
    ADDRESS VARCHAR(35)
```

```
);
```

SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
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- 1) Insert 15 students with full details including Email and Address.

```
INSERT INTO STUDENT VALUES
```

```
(1, 'Hari Acharya', 'M', 18, '12B', 87, 'acharya@gmail.com', 'Shantinagar'),  
(2, 'Rea Sharma', 'F', 19, '11A', 92, 'sharma@yahoo.com', 'Pokhara'),  
(3, 'Anisha Chaulagain', 'F', 20, '12A', 79, 'anisha.c@gmail.com', 'Dharan'),  
(4, 'Babita Dhungana', 'F', 18, '11B', 83, 'babita.dhun@hotmail.com', 'Baglung'),  
(5, 'Bijaya Thapa', 'F', 17, '11A', 68, 'bijayathapa88@gmail.com', 'Chitwan'),  
(6, 'Pujan Subedi', 'M', 20, '12B', 96, 'pujan.subedi@yahoo.com', 'Bhaktapur'),  
(7, 'Sarojani Karki', 'F', 19, '11B', 72, NULL, 'Makwanpur'),  
(8, 'Manisha Joshi', 'F', 18, '11A', 89, 'mj.official@gmail.com', 'Kailali'),  
(9, 'Dipesh Rautey', 'M', 20, '12B', 94, 'dipeshraut@outlook.com', 'Rupandehi'),  
(10, 'Sitashma Neupane', 'F', 17, '11B', 76, 'sitaneupane123@gmail.com', 'Tanahun'),  
(11, 'Roshan Regmi', 'M', 18, '12A', 85, 'roshan.regmi@gmail.com', 'Butwal'),  
(12, 'Sweta KC', 'F', 19, '11A', 91, 'swetakc@gmail.com', 'Lalitpur'),  
(13, 'Karan Maharjan', 'M', 17, '12B', 90, 'karan.mj@yahoo.com', 'Kathmandu'),  
(14, 'Nishan Rijal', 'M', 20, '11A', 74, NULL, 'Dhading'),  
(15, 'Saurav Basnet', 'M', 19, '12A', 82, 'sauravbasnet@gmail.com', 'Syangja');
```

- 2) Display all student records with all columns.

```
SELECT * FROM Student;
```

Results Messages

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
2	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara
3	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
4	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung
5	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
6	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur
7	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
8	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
9	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Rupandehi
10	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
12	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur
13	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
14	14	Nishan Rijal	M	20	11A	74	NULL	Dhading
15	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja

✓ Query executed successfully. | ABINASHREGMI\sqlexpress (16... | ABINASHREGMI\dell (63) | master | 00:00:00 | 15 rows

3) Display only SName, Email, and Marks.

SELECT SName, Email, Marks FROM Student;

	SName	Email	Marks
1	Hari Acharya	acharya@gmail.com	87
2	Rea Sharma	sharma@yahoo.com	92
3	Anisha Chaulagain	anish.c@gmail.com	79
4	Babita Dhungana	babita.dhun@hotmail.com	83
5	Bijaya Thapa	bijayathapa88@gmail.com	68
6	Pujan Subedi	pujan.subedi@yahoo.com	96
7	Sarojani Karki	NULL	72
8	Manish Joshi	mj.official@gmail.com	89
9	Dipesh Rautey	dipeshrautey@outlook.com	94
10	Sitashma Neupane	sitashmaneupane123@gmail.com	76
11	Rohan Regmi	rohan.regmi@gmail.com	85
12	Sweta KC	swetakc@gmail.com	91
13	Karan Maharjan	karan.mj@yahoo.com	90
14	Nishan Rijal	NULL	74
15	Saurav Basnet	sauravbasnet@gmail.com	82

✓ Query executed successfully. | ABINASHREGMI\sqlexpress (16... |

4) Find students who live in a specific city (use LIKE on Address).

```
SELECT * FROM Student WHERE Address LIKE  
'%Kathmandu%';
```

Results								
	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu

5) Find students whose email ends with '@gmail.com'.

```
SELECT * FROM Student WHERE Email LIKE  
'%@gmail.com';
```

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
2	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
3	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
4	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
5	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
6	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
7	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur
8	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja

Query executed successfully. | ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (63)

6) Update the Address of a student with a specific StudentID.

```
UPDATE STUDENT SET ADDRESS = 'Aargakachi' WHERE  
SID = 9;
```

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
2	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara
3	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
4	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung
5	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
6	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur
7	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
8	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
9	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi
10	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
12	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur
13	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
14	14	Nishan Rijal	M	20	11A	74	NULL	Dhading
15	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja

Query executed successfully | ARINASHREGMI\salesspress (16) | ARINASHREGMI\dell (63)

- 7) List all students who scored more than 80 and are under 20 years old.

SELECT * FROM Student WHERE Marks > 80 AND Age < 20;

Results		Messages						
	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	1	Suman Acharya	M	18	12B	87	sumanacharya@gmail.com	Biratnagar
2	2	Reema Sharma	F	19	11A	92	reema.sharma@yahoo.com	Pokhara
3	4	Kabita Dhungana	F	18	11B	83	kabita.dhun@hotmail.com	Baglung
4	6	Puja Subedi	F	20	12B	96	puja.subedi@yahoo.com	Bhaktapur
5	8	Manisha Joshi	F	18	11A	89	mj.official@gmail.com	Kailali
6	9	Dipesh Raut	M	20	12B	94	dipeshraut@outlook.com	Aargakachi
7	11	Roshan Regmi	M	18	12A	85	roshan.regmi@gmail.com	Butwal
8	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur
9	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
10	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja

Query executed successfully.

- 8) Count how many students have email addresses from 'yahoo.com'.

```
SELECT COUNT(*) FROM Student WHERE Email LIKE  
'%@yahoo.com';
```

```
SELECT COUNT(*) AS YahooEmailCount  
FROM Student  
WHERE Email LIKE '%@yahoo.com';
```

	YahooEmailCount
1	3

9) Find students who have not provided an email (Email IS NULL).

```
SELECT * FROM Student WHERE Email IS NULL;
```

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
2	14	Nishan Rijal	M	20	11A	74	NULL	Dhading

Query executed successfully. | ABINASHREGMI\sqlexpress (16...)

10. Display all students ordered by SName alphabetically

SELECT * FROM STUDENT ORDER BY SNAME ASC;

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
2	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung
3	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
4	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi
5	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
6	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
7	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
8	14	Nishan Rijal	M	20	11A	74	NULL	Dhading
9	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur
10	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
12	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
13	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja
14	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
15	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur

Query executed successfully. | ABINASHREGMI\salessexpress (16...) | ABINASHREGMI\dell (63) |

11) Group students by Class and show the highest marks in each class

SELECT CLASS, MAX(MARKS) AS HIGHESTMARK FROM STUDENT GROUP BY CLASS;

	CLASS	HIGHESTMARK
1	11A	92
2	11B	83
3	12A	85
4	12B	96

12) Delete students whose address is 'NULL' or not specified.

DELETE FROM STUDENT WHERE ADDRESS IS NULL;

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
2	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung
3	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
4	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi
5	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
6	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
7	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
8	14	Nishan Rijal	M	20	11A	74	NULL	Dhading
9	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur
10	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
12	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
13	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja
14	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
15	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur

Query executed successfully. | ABINASHREGMI\salesspress (16...) | ABINASHREGMI\dell (63) |

Before

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS
1	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan
2	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung
3	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan
4	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi
5	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar
6	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu
7	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali
8	14	Nishan Rijal	M	20	11A	74	NULL	Dhading
9	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur
10	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal
12	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur
13	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja
14	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun
15	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur

Query executed successfully. | ABINASHREGMI\salesspress (16...) | ABINASHREGMI\dell (63) |

After

13. Add a new column PhoneNumber to the student table.

ALTER TABLE Student ADD PhoneNumber VARCHAR(20);

	SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS	PhoneNumber
1	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar	NULL
2	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara	NULL
3	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan	NULL
4	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung	NULL
5	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan	NULL
6	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur	NULL
7	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur	NULL
8	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali	NULL
9	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi	NULL
10	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun	NULL
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal	NULL
12	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur	NULL
13	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu	NULL
14	14	Nishan Rijal	M	20	11A	74	NULL	Dhading	NULL
15	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja	NULL

✓ Query executed successfully. | ABINASHREGMI\sqlexpress (16...) | ABINASHREGMI\dell (63) | master | 00:00:00

14. Create a view ContactList to display SName, Email, and PhoneNumber.

CREATE VIEW ContactList AS

SELECT SName, Email, PhoneNumber FROM Student;

	SName	Email	PhoneNumber
1	Hari Acharya	acharya@gmail.com	NULL
2	Rea Sharma	sharma@yahoo.com	NULL
3	Anisha Chaulagain	anish.c@gmail.com	NULL
4	Babita Dhungana	babita.dhun@hotmail.com	NULL
5	Bijaya Thapa	bijayathapa88@gmail.com	NULL
6	Pujan Subedi	pujan.subedi@yahoo.com	NULL
7	Sarojani Karki	NULL	NULL
8	Manish Joshi	mj.official@gmail.com	NULL
9	Dipesh Rautey	dipeshrautey@outlook.com	NULL
10	Sitashma Neupane	sitashmaneupane123@gmail.com	NULL
11	Rohan Regmi	rohan.regmi@gmail.com	NULL
12	Sweta KC	swetakc@gmail.com	NULL
13	Karan Maharjan	karan.mj@yahoo.com	NULL
14	Nishan Rijal	NULL	NULL
15	Saurav Basnet	sauravbasnet@gmail.com	NULL

✓ Query executed successfully. | ABINASHREGMI\sqlexpress (16...)

15. Display students whose name starts with 'R' and ends with 'a'.

```
SELECT * FROM STUDENT WHERE SNAME LIKE 'R%' AND SNAME LIKE '%oa';
```

SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS	PhoneNumber	
1	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara	NULL

16. Find the number of students per city (GROUP BY Address).

```
SELECT ADDRESS AS CITY, COUNT(*) AS STUDENTCOUNT FROM STUDENT GROUP BY ADDRESS;
```

	CITY	STUDENTCOUNT
1	Aargakachi	1
2	Baglung	1
3	Bharatpur	1
4	Butwal	1
5	Chitwan	1
6	Dhading	1
7	Dharan	1
8	Kailali	1
9	Kathmandu	1
10	Lalitpur	1
11	Makwanpur	1
12	Pokhara	1
13	Shantinagar	1
14	Syangja	1
15	Tanahun	1

17. Count how many male and female students exist (GROUP BY Gender).

```
SELECT GENDER, COUNT(*) AS GENDERCOUNT FROM STUDENT GROUP BY GENDER;
```

	GENDER	GENDERCOUNT
1	F	8
2	M	7

18. Find students who have the same address but different names.

```
SELECT * FROM STUDENT WHERE ADDRESS IN (
    SELECT ADDRESS FROM STUDENT GROUP BY
        ADDRESS HAVING COUNT(DISTINCT SNAME) > 1
)
```

SID	SNAME	GENDER	AGE	CLASS	MARKS	EMAIL	ADDRESS	PHONE
101	John	M	20	CSE	85	john@example.com	123 Main St	987-654-3210

20) Rename the column Marks to TotalMarks.

```
EXEC sp_rename 'STUDENT.MARKS', 'TOTALMARKS', 'COLUMN';
```

	SID	SNAME	GENDER	AGE	CLASS	TOTALMARKS	EMAIL	ADDRESS	PhoneNumber
1	1	Hari Acharya	M	18	12B	87	acharya@gmail.com	Shantinagar	NULL
2	2	Rea Sharma	F	19	11A	92	sharma@yahoo.com	Pokhara	NULL
3	3	Anisha Chaulagain	F	20	12A	79	anish.c@gmail.com	Dharan	NULL
4	4	Babita Dhungana	F	18	11B	83	babita.dhun@hotmail.com	Baglung	NULL
5	5	Bijaya Thapa	F	17	11A	68	bijayathapa88@gmail.com	Chitwan	NULL
6	6	Pujan Subedi	F	20	12B	96	pujan.subedi@yahoo.com	Bharatpur	NULL
7	7	Sarojani Karki	F	19	11B	72	NULL	Makwanpur	NULL
8	8	Manish Joshi	M	18	11A	89	mj.official@gmail.com	Kailali	NULL
9	9	Dipesh Rautey	M	20	12B	94	dipeshrautey@outlook.com	Aargakachi	NULL
10	10	Sitashma Neupane	F	17	11B	76	sitashmaneupane123@gmail.com	Tanahun	NULL
11	11	Rohan Regmi	M	18	12A	85	rohan.regmi@gmail.com	Butwal	NULL
12	12	Sweta KC	F	19	11A	91	swetakc@gmail.com	Lalitpur	NULL
13	13	Karan Maharjan	M	17	12B	90	karan.mj@yahoo.com	Kathmandu	NULL
14	14	Nishan Rijal	M	20	11A	74	NULL	Dhading	NULL
15	15	Saurav Basnet	M	19	12A	82	sauravbasnet@gmail.com	Syangja	NULL

Query executed successfully. | ABINASHREGMI\salexpress (16...) | ABINASHREGMI\dell (63) | master | 00:00:00 | 1