

Lab 1:

1. Write SQL code to create table Student.
2. Write SQL code to create Employee table having attributes Eid, Ename, Eaddress, Ephone, Ecity, Eage and Esalary.
3. Insert 15 records on Employee table.
4. Display records from table using 'WHERE' clause.

SQL Queries:

- 1) To create a table student:

```
CREATE DATABASE STD;

USE STD;

CREATE TABLE student(
    SID INT(3) PRIMARY KEY,
    f_name VARCHAR(20),
    l_name VARCHAR(20),
    address VARCHAR(30));
```

```
1 queries executed, 1 success, 0 errors, 0 warnings

Query: CREATE TABLE student( SID INT(3) PRIMARY KEY, f_name VARCHAR(20), l_name VARCHAR(20), address VARCHAR(30))

0 row(s) affected

Execution Time : 0.036 sec
Transfer Time  : 0 sec
Total Time     : 0.037 sec
```

- 2) To create a table employee:

```
CREATE DATABASE Employeee
USE Employeee

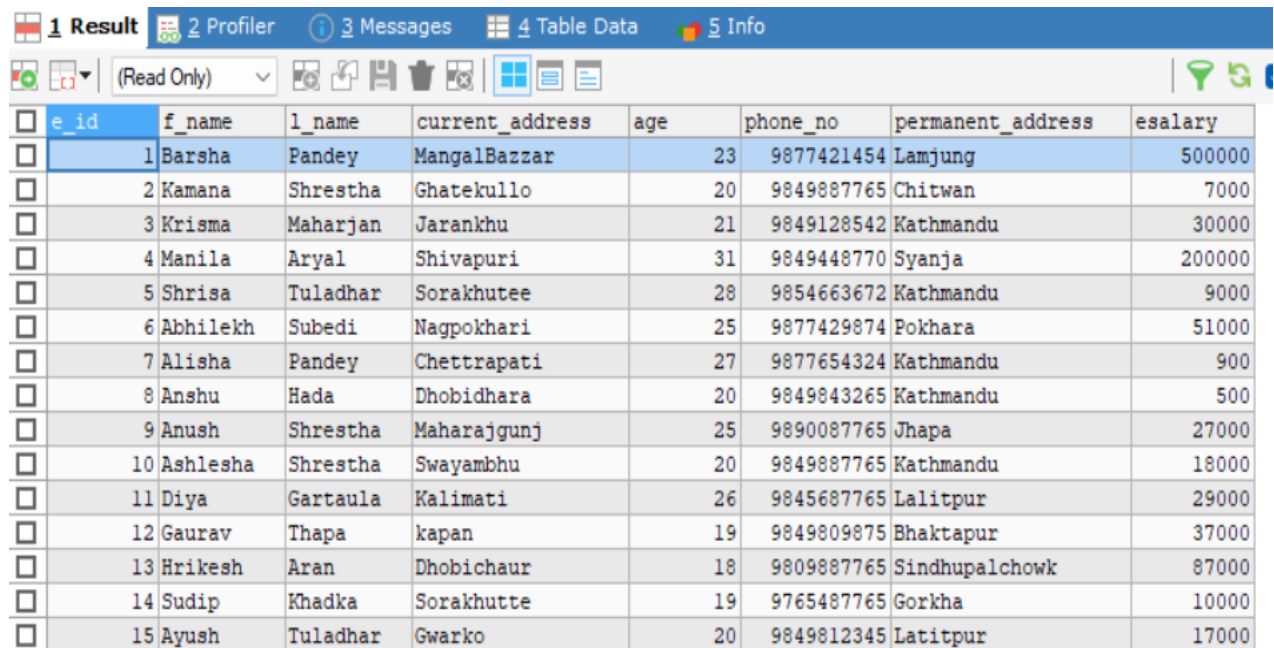
CREATE TABLE Employeee(
    e_id INT(3) PRIMARY KEY,
    f_name VARCHAR(15),
    l_name VARCHAR(15),
    current_address VARCHAR(15),
    age INT(3),
    phone_no NUMERIC,
    permanent_address VARCHAR(15),
    esalary NUMERIC );
```

3) Inserting values in Employee Table:

INSERT INTO Employee VALUES

```
(1,"Barsha","Pandey","MangalBazzar",23,9877421454,"Lamjung",500000),
(2,"Kamana","Shrestha","Ghatekullo",20,9849887765,"Chitwan",7000),
(3,"Krisma","Maharjan","Jarankhu",21,9849128542,"Kathmandu",30000),
(4,"Manila","Aryal","Shivapuri",31,9849448770,"Syanja",200000),
(5,"Shrisa","Tuladhar","Sorakhutee",28,9854663672,"Kathmandu",9000),
(6,"Abhilekh","Subedi","Nagpokhari",25,9877429874,"Pokhara",51000),
(7,"Alisha","Pandey","Chettrapati",27,9877654324,"Kathmandu",900),
(8,"Anshu","Hada","Dhobidhara",20,9849843265,"Kathmandu",500),
(9,"Anush","Shrestha","Maharajgunj",25,9890087765,"Jhapa",27000),
(10,"Ashlesha","Shrestha","Swayambhu",20,9849887765,"Kathmandu",18000),
(11,"Diya","Gartaula","Kalimati",26,9845687765,"Lalitpur",29000),
(12,"Gaurav","Thapa","kapan",19,9849809875,"Bhaktapur",37000),
(13,"Hrikesh","Aran","Dhobichaur",18,9809887765,"Sindhupalchowk",87000),
(14,"Sudip","Khadka","Sorakhutte",19,9765487765,"Gorkha",10000),
(15,"Ayush","Tuladhar","Gwarko",20,9849812345,"Latitpur",17000);
```

Select * from Employee



e_id	f_name	l_name	current_address	age	phone_no	permanent_address	esalary
1	Barsha	Pandey	MangalBazzar	23	9877421454	Lamjung	500000
2	Kamana	Shrestha	Ghatekullo	20	9849887765	Chitwan	7000
3	Krisma	Maharjan	Jarankhu	21	9849128542	Kathmandu	30000
4	Manila	Aryal	Shivapuri	31	9849448770	Syanja	200000
5	Shrisa	Tuladhar	Sorakhutee	28	9854663672	Kathmandu	9000
6	Abhilekh	Subedi	Nagpokhari	25	9877429874	Pokhara	51000
7	Alisha	Pandey	Chettrapati	27	9877654324	Kathmandu	900
8	Anshu	Hada	Dhobidhara	20	9849843265	Kathmandu	500
9	Anush	Shrestha	Maharajgunj	25	9890087765	Jhapa	27000
10	Ashlesha	Shrestha	Swayambhu	20	9849887765	Kathmandu	18000
11	Diya	Gartaula	Kalimati	26	9845687765	Lalitpur	29000
12	Gaurav	Thapa	kapan	19	9849809875	Bhaktapur	37000
13	Hrikesh	Aran	Dhobichaur	18	9809887765	Sindhupalchowk	87000
14	Sudip	Khadka	Sorakhutte	19	9765487765	Gorkha	10000
15	Ayush	Tuladhar	Gwarko	20	9849812345	Latitpur	17000

4) Using WHERE clause:

```
Select * from Employee
where permanent_address = "Kathmandu";
```

```

30 SELECT * FROM Employeee
31 WHERE permanent_address = "Kathmandu";

```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info							
(Read Only)							
e_id	f_name	l_name	current_address	age	phone_no	permanent_address	esalary
3	Krisma	Maharjan	Jarankhu	21	9849128542	Kathmandu	30000
5	Shrisa	Tuladhar	Sorakhutee	28	9854663672	Kathmandu	9000
7	Alisha	Pandey	Chettrapati	27	9877654324	Kathmandu	900
8	Anshu	Hada	Dhobidhara	20	9849843265	Kathmandu	500
10	Ashlesha	Shrestha	Swayambhu	20	9849887765	Kathmandu	18000

SELECT * FROM Employeee
WHERE age > 25;

```

3 SELECT * FROM Employeee
4 WHERE age > 25;

```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info							
(Read Only)							
e_id	f_name	l_name	current_address	age	phone_no	permanent_address	esalary
4	Manila	Aryal	Shivapuri	31	9849448770	Syanja	200000
5	Shrisa	Tuladhar	Sorakhutee	28	9854663672	Kathmandu	9000
7	Alisha	Pandey	Chettrapati	27	9877654324	Kathmandu	900
11	Diya	Gartaula	Kalimati	26	9845687765	Lalitpur	29000

SELECT * FROM Employeee
WHERE esalary <= 10000;

```

SELECT * FROM Employeee
WHERE esalary <= 10000;

```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info							
(Read Only)							
e_id	f_name	l_name	current_address	age	phone_no	permanent_address	esalary
2	Kamana	Shrestha	Ghatekullo	20	9849887765	Chitwan	7000
5	Shrisa	Tuladhar	Sorakhutee	28	9854663672	Kathmandu	9000
7	Alisha	Pandey	Chettrapati	27	9877654324	Kathmandu	900
8	Anshu	Hada	Dhobidhara	20	9849843265	Kathmandu	500
14	Sudip	Khadka	Sorakhutte	19	9765487765	Gorkha	10000

SELECT * FROM Employeee
WHERE f_name LIKE 'A%';

```

SELECT * FROM Employeee
WHERE f_name LIKE 'A%';

```

1 Result 2 Profiler 3 Messages 4 Table Data 5 Info							
(Read Only)							
e_id	f_name	l_name	current_address	age	phone_no	permanent_address	esalary
6	Abhilekh	Subedi	Nagpokhari	25	9877429874	Pokhara	51000
7	Alisha	Pandey	Chettrapati	27	9877654324	Kathmandu	900
8	Anshu	Hada	Dhobidhara	20	9849843265	Kathmandu	500
9	Anush	Shrestha	Maharajgunj	25	9890087765	Jhapa	27000
10	Ashlesha	Shrestha	Swayambhu	20	9849887765	Kathmandu	18000
15	Ayush	Tuladhar	Gwarko	20	9849812345	Latitpur	17000

Lab 2:

1. Create table employee with attributes Empid, Empname, Empaddress, Empphone, Emppost, Empsalary, Empage and insert 10 records.
2. Find the employee records whose salary is greater than 30k.
3. Find the employee records whose salary is less than 25k and address is 'Dharan'.
4. Find the employee records using IN/NOT IN operator.
5. Find the Empid, Empname, Empsalary and Emppost from table who is 'Manager'.

SQL queries:

1) Create Employee Table:

```
CREATE DATABASE Ansu
USE ansu
CREATE TABLE EMPLOYEE
(eid INT(3),
ename VARCHAR(20),
eaddress VARCHAR(20),
ephone NUMERIC(10),
ecity VARCHAR(20),
eage INT(3),
esalary INT(8),
epost VARCHAR(30)
);
```

Insert 10 records:

```
INSERT INTO EMPLOYEE VALUES
(1, 'Anshu Hada', 'Dhobidhara', 9812345601, 'Kathmandu', 22, 100000, 'CEO'),
(2, 'Barsha Pandey', 'Dillibazar', 9812345602, 'Lalitpur', 25, 20000, 'Manager'),
(3, 'Gaurav Thapa', 'Baneshwor', 9812345603, 'Bhaktapur', 30, 40000, 'Cashier'),
(4, 'Manila Aryal', 'Kalanki', 9812345604, 'Pokhara', 28, 10000, 'Sales Associate'),
(5, 'Kamana Shrestha', 'Putalisadak', 9812345605, 'Dharan', 27, 20000, 'Security Guard'),
(6, 'ShrishaTuladhar', 'Kirtipur', 9812345606, 'Itahari', 24, 910000, 'Cleaning staff'),
(7, 'Krisma Maharjan', 'Gausala', 9812345607, 'Dharan', 31, 40000, 'Project Manager'),
(8, 'Sudip Khadka', 'Maitidevi', 9812345608, 'Hetauda', 29, 10000, 'Front desk coordinator'),
(9, 'Ayush Tuladhar', 'Balkot', 9812345609, 'Nepalgunj', 26, 20000, 'Clerk'),
(10, 'Sangam Adhikari', 'Sankhamul', 9812345610, 'Butwal', 23, 30000, 'Security Guard');
SELECT * FROM Employee
```

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eid	ename	eaddress	ephone	ecity	eage	esalary	epost
1	Anshu Hada	Dhobidhara	9812345601	Kathmandu	22	100000	CEO
2	Barsha Pandey	Dillibazar	9812345602	Lalitpur	25	20000	Manager
3	Gaurav Thapa	Baneshwor	9812345603	Bhaktapur	30	40000	Cashier
4	Manila Aryal	Kalanki	9812345604	Pokhara	28	10000	Sales Associate
5	Kamana Shrestha	Putalisadak	9812345605	Dharan	27	20000	Security Guard
6	ShrishaTuladhar	Kirtipur	9812345606	Itahari	24	910000	Cleaning staff
7	Krisma Maharjan	Gausala	9812345607	Dharan	31	40000	Project Manager
8	Sudip Khadka	Maitidevi	9812345608	Hetauda	29	10000	Front desk coordinator
9	Ayush Tuladhar	Balkot	9812345609	Nepalgunj	26	20000	Clerk
10	Sangam Adhikari	Sankhamul	9812345610	Butwal	23	30000	Security Guard

2) Employee whose salary is greater than 30k:

```
SELECT * FROM EMPLOYEE WHERE esalary > 30000;
```

eid	ename	eaddress	ephone	ecity	eage	esalary	epost
1	Anshu Hada	Dhobidhara	9812345601	Kathmandu	22	100000	CEO
3	Gaurav Thapa	Baneshwor	9812345603	Bhaktapur	30	40000	Cashier
6	ShrishaTuladhar	Kirtipur	9812345606	Itahari	24	910000	Cleaning staff
7	Krisma Maharjan	Gausala	9812345607	Dharan	31	40000	Project Manager

3) Employee whose salary is less than 25k and address is 'Dharan':

```
SELECT * FROM EMPLOYEE WHERE esalary < 25000 AND ecity = 'Dharan';
```

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eid	ename	eaddress	ephone	ecity	eage	esalary	epost
5	Kamana Shrestha	Putalisadak	9812345605	Dharan	27	20000	Security Guard

4) Employee records using IN/NOT IN operator:

```
SELECT * FROM EMPLOYEE
WHERE ecity IN ('Dharan', 'Kathmandu', 'Lalitpur');
```

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eid	ename	eaddress	ephone	ecity	eage	esalary	epost
1	Anshu Hada	Dhobidhara	9812345601	Kathmandu	22	100000	CEO
2	Barsha Pandey	Dillibazar	9812345602	Lalitpur	25	20000	Manager
5	Kamana Shrestha	Putalisadak	9812345605	Dharan	27	20000	Security Guard
7	Krisma Maharjan	Gausala	9812345607	Dharan	31	40000	Project Manager

```
SELECT * FROM EMPLOYEE
WHERE epost NOT IN ('Clerk', 'Security Guard');
```

<input type="checkbox"/>	eid	ename	eaddress	ephone	ecity	eage	esalary	epost
<input type="checkbox"/>	1	Anshu Hada	Dhobidhara	9812345601	Kathmandu	22	100000	CEO
<input type="checkbox"/>	2	Barsha Pandey	Dillibazar	9812345602	Lalitpur	25	20000	Manager
<input type="checkbox"/>	3	Gaurav Thapa	Baneshwor	9812345603	Bhaktapur	30	40000	Cashier
<input type="checkbox"/>	4	Manila Aryal	Kalanki	9812345604	Pokhara	28	10000	Sales Associate
<input type="checkbox"/>	6	ShrishaTuladhar	Kirtipur	9812345606	Itahari	24	910000	Cleaning staff
<input type="checkbox"/>	7	Krisma Maharjan	Gausala	9812345607	Dharan	31	40000	Project Manager
<input type="checkbox"/>	8	Sudip Khadka	Maitidevi	9812345608	Hetauda	29	10000	Front desk coordinator

5) Empid, Empname, Empsalary and Empppost from table who is 'Manager':

```
SELECT eid, ename, esalary, epost FROM EMPLOYEE
WHERE epost = 'Manager';
```

<input type="checkbox"/>	eid	ename	esalary	epost
<input type="checkbox"/>	2	Barsha Pandey	20000	Manager

Lab 3:

1. Create table student on SQL
2. Add one column on existing table.
3. Delete column from existing table.
4. Change datatypes of existing columns.
5. Display student records who read in grade 12 and have marks above 90.

SQL Queries:

- 1) Create Table Student and Insert Values in it:

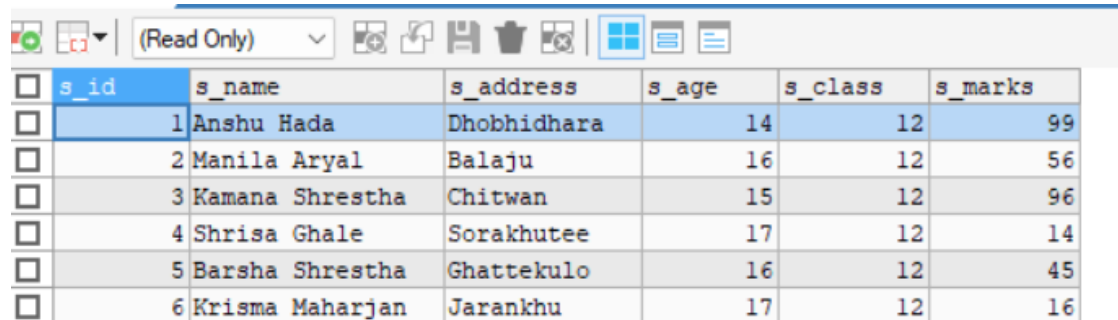
```
CREATE DATABASE STD
USE STD
```

```
CREATE TABLE student(
s_id INT(3) PRIMARY KEY,
s_name VARCHAR(30),
s_address VARCHAR(20),
s_age INT(3),
s_class INT (2),
s_marks NUMERIC);
```

```
INSERT INTO student VALUES
```

```
(1,"Anshu Hada","Dhobhidhara",14,12,99),
(2,"Manila Aryal","Balaju",16,12,56),
(3,"Kamana Shrestha","Chitwan",15,12,96),
(4,"Shrisa Ghale","Sorakhutee",17,12,14),
(5,"Barsha Shrestha","Ghattekulo",16,12,45),
(6,"Krisma Maharjan","Jarankhu",17,12,16);
```

```
SELECT * FROM student
```



<input type="checkbox"/>	s_id	s_name	s_address	s_age	s_class	s_marks
<input type="checkbox"/>	1	Anshu Hada	Dhobhidhara	14	12	99
<input type="checkbox"/>	2	Manila Aryal	Balaju	16	12	56
<input type="checkbox"/>	3	Kamana Shrestha	Chitwan	15	12	96
<input type="checkbox"/>	4	Shrisa Ghale	Sorakhutee	17	12	14
<input type="checkbox"/>	5	Barsha Shrestha	Ghattekulo	16	12	45
<input type="checkbox"/>	6	Krisma Maharjan	Jarankhu	17	12	16

- 2) Add one column on existing table:

```
ALTER TABLE student ADD section VARCHAR(2);
```

```
UPDATE student SET section = 'A' WHERE s_id IN (1, 2);
```

```
UPDATE student SET section = 'B' WHERE s_id IN (3, 4);
```

```
UPDATE student SET section = 'C' WHERE s_id IN (5, 6);
```

```
SELECT * FROM student
```

<input type="checkbox"/>	s_id	s_name	s_address	s_age	s_class	s_marks	section
<input type="checkbox"/>	1	Anshu Hada	Dhobhidhara	14	12	99	A
<input type="checkbox"/>	2	Manila Aryal	Balaju	16	12	56	A
<input type="checkbox"/>	3	Kamana Shrestha	Chitwan	15	12	96	B
<input type="checkbox"/>	4	Shrisa Ghale	Sorakhutee	17	12	14	B
<input type="checkbox"/>	5	Barsha Shrestha	Ghattekulo	16	12	45	C
<input type="checkbox"/>	6	Krisma Maharjan	Jarankhu	17	12	16	C

- 3) Delete column from existing table:

```
ALTER TABLE student DROP s_address;
```

```
SELECT * FROM student
```

<input type="checkbox"/>	s_id	s_name	s_age	s_class	s_marks	section
<input type="checkbox"/>	1	Anshu Hada	14	12	99	A
<input type="checkbox"/>	2	Manila Aryal	16	12	56	A
<input type="checkbox"/>	3	Kamana Shrestha	15	12	96	B
<input type="checkbox"/>	4	Shrisa Ghale	17	12	14	B
<input type="checkbox"/>	5	Barsha Shrestha	16	12	45	C
<input type="checkbox"/>	6	Krisma Maharjan	17	12	16	C

- 4) Change datatypes of existing columns:

```
ALTER TABLE student MODIFY s_id VARCHAR(2);
```

```
SELECT * FROM student
```

<input type="checkbox"/>	1 Messages	<input type="checkbox"/>	2 Table Data	<input type="checkbox"/>	3 Info
1 queries executed, 1 success, 0 errors, 0 warnings					
Query: ALTER TABLE student MODIFY s_id VARCHAR(2)					
0 row(s) affected					

- 5) Display student records who read in grade 12 and have marks above 90:

```
SELECT * FROM STUDENT WHERE s_class=12 AND s_marks>90;
```

<input type="checkbox"/>	s_id	s_name	s_age	s_class	s_marks	section
<input type="checkbox"/>	1	Anshu Hada	14	12	99	A
<input type="checkbox"/>	3	Kamana Shrestha	15	12	96	B

Lab 4:

- 1) Write SQL code to update data whose id is 1.
- 2) Write SQL code to change address into "London" whose name is "Dilip".
- 3) Write SQL code to modify name whose id is 7.
- 4) Write SQL code to display records from Student table using aggregation function (SUM, MIN, MAX, AVG,COUNT).

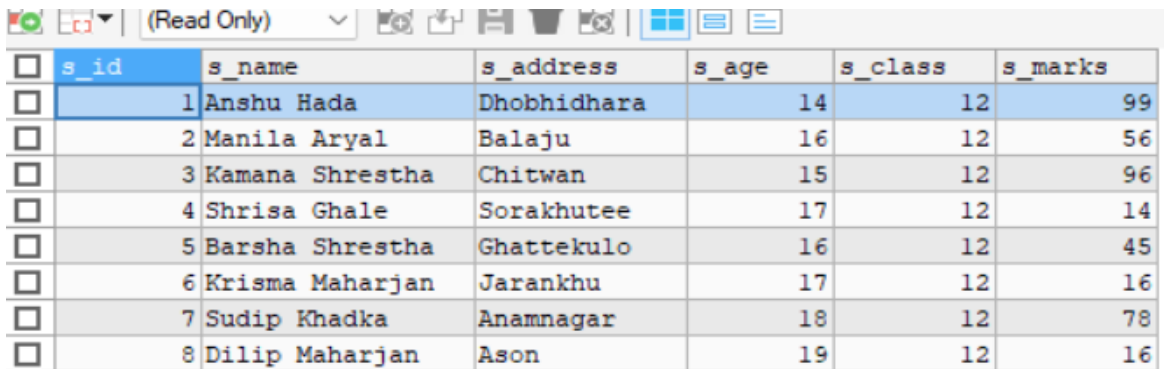
SQL Queries:

- 1) Create Student table and Insert value into it:

```
CREATE DATABASE AAA
USE AAA
```

```
CREATE TABLE student(
s_id INT(3) PRIMARY KEY,
s_name VARCHAR(30),
s_address VARCHAR(20),
s_age INT(3),
s_class INT (2),
s_marks NUMERIC);
```

```
INSERT INTO student VALUES
(1,"Anshu Hada","Dhobhidhara",14,12,99),
(2,"Manila Aryal","Balaju",16,12,56),
(3,"Kamana Shrestha","Chitwan",15,12,96),
(4,"Shrisa Ghale","Sorakhutee",17,12,14),
(5,"Barsha Shrestha","Ghattekulo",16,12,45),
(6,"Krisma Maharjan","Jarankhu",17,12,16),
(7,"Sudip Khadka","Anamnagar",18,12,78),
(8,"Dilip Maharjan","Ason",19,12,16);
SELECT * FROM student
```



The screenshot shows a database application window with a toolbar at the top. Below the toolbar is a table with 6 columns: s_id, s_name, s_address, s_age, s_class, and s_marks. The table contains 8 rows of data, with the first row highlighted in blue. The data is as follows:

s_id	s_name	s_address	s_age	s_class	s_marks
1	Anshu Hada	Dhobhidhara	14	12	99
2	Manila Aryal	Balaju	16	12	56
3	Kamana Shrestha	Chitwan	15	12	96
4	Shrisa Ghale	Sorakhutee	17	12	14
5	Barsha Shrestha	Ghattekulo	16	12	45
6	Krisma Maharjan	Jarankhu	17	12	16
7	Sudip Khadka	Anamnagar	18	12	78
8	Dilip Maharjan	Ason	19	12	16

2) Update data whose id is 1:

```
UPDATE student SET s_age=15  
WHERE s_id=1;  
SELECT * FROM student
```

<input type="checkbox"/>	s_id	s_name	s_address	s_age	s_class	s_marks
<input type="checkbox"/>	1	Anshu Hada	Dhobhidhara	15	12	99
<input type="checkbox"/>	2	Manila Aryal	Balaju	16	12	56
<input type="checkbox"/>	3	Kamana Shrestha	Chitwan	15	12	96
<input type="checkbox"/>	4	Shrisa Ghale	Sorakhutee	17	12	14
<input type="checkbox"/>	5	Barsha Shrestha	Ghattekulo	16	12	45
<input type="checkbox"/>	6	Krisma Maharjan	Jarankhu	17	12	16
<input type="checkbox"/>	7	Sudip Khadka	Anamnagar	18	12	78
<input type="checkbox"/>	8	Dilip Maharjan	Ason	19	12	16

3) Change address into "London" whose name is "Dilip":

```
UPDATE student SET s_address="London"  
WHERE s_name="Dilip Maharjan";  
SELECT * FROM student
```

<input type="checkbox"/>	s_id	s_name	s_address	s_age	s_class	s_marks
<input type="checkbox"/>	1	Anshu Hada	Dhobhidhara	15	12	99
<input type="checkbox"/>	2	Manila Aryal	Balaju	16	12	56
<input type="checkbox"/>	3	Kamana Shrestha	Chitwan	15	12	96
<input type="checkbox"/>	4	Shrisa Ghale	Sorakhutee	17	12	14
<input type="checkbox"/>	5	Barsha Shrestha	Ghattekulo	16	12	45
<input type="checkbox"/>	6	Krisma Maharjan	Jarankhu	17	12	16
<input type="checkbox"/>	7	Sudip Khadka	Anamnagar	18	12	78
<input type="checkbox"/>	8	Dilip Maharjan	London	19	12	16

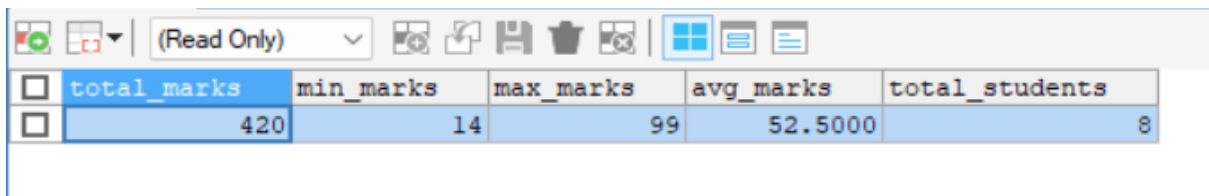
4) Modify name whose id is 7:

```
UPDATE student  
SET s_name = 'Sushila Khadka'  
WHERE s_id = 7;  
SELECT * FROM student
```

<input type="checkbox"/>	s_id	s_name	s_address	s_age	s_class	s_marks
<input type="checkbox"/>	1	Anshu Hada	Dhobhidhara	15	12	99
<input type="checkbox"/>	2	Manila Aryal	Balaju	16	12	56
<input type="checkbox"/>	3	Kamana Shrestha	Chitwan	15	12	96
<input type="checkbox"/>	4	Shrisa Ghale	Sorakhutee	17	12	14
<input type="checkbox"/>	5	Barsha Shrestha	Ghattekulo	16	12	45
<input type="checkbox"/>	6	Krisma Maharjan	Jarankhu	17	12	16
<input type="checkbox"/>	7	Sushila Khadka	Anamnagar	18	12	78
<input type="checkbox"/>	8	Dilip Maharjan	London	19	12	16

5) Display records from Student table using aggregation function :

```
SELECT
    SUM(s_marks) AS total_marks,
    MIN(s_marks) AS min_marks,
    MAX(s_marks) AS max_marks,
    AVG(s_marks) AS avg_marks,
    COUNT(*) AS total_students
FROM student;
```



The screenshot shows a database query result window with a toolbar at the top containing icons for various operations like save, print, and zoom. Below the toolbar is a table with 5 columns: total_marks, min_marks, max_marks, avg_marks, and total_students. The first row of data shows the aggregated values: 420, 14, 99, 52.5000, and 8.

<input type="checkbox"/>	total_marks	min_marks	max_marks	avg_marks	total_students
<input type="checkbox"/>	420	14	99	52.5000	8

