Experiment 5
DML Commands I

Aim:

Practice SQL commands for DML (insertion, updating, deletion of data, and viewing/querying records based on condition in databases).

Part 1 – Update/Delete

1. Give all staff a 3% pay increase.

Before:

```
mysql> select * from Staff39;
+---------+-------+-------+------------+-----+------------+--------+----------+
| staffNo | fName | lName | position   | sex | DOB        | salary | branchNo |
+---------+-------+-------+------------+-----+------------+--------+----------+
| SA9     | Mary  | Howe  | Assistant  | F   | 1970-02-19 |   9000 | B007     |
| SG14    | David | Ford  | Supervisor | M   | 1958-03-24 |  18000 | B003     |
| SG37    | Ann   | Beech | Assistant  | F   | 1960-11-10 |  12000 | B003     |
| SG5     | Susan | Brand | Manager    | F   | 1940-06-03 |  24000 | B003     |
| SL21    | John  | White | Manager    | M   | 1945-10-01 |  30000 | B005     |
| SL41    | Julie | Lee   | Assistant  | F   | 1965-06-13 |   9000 | B005     |
+---------+-------+-------+------------+-----+------------+--------+----------+
6 rows in set (0.01 sec)
```

Command: Update Staff39 set salary=salary+(salary*3/100);

After:

```
mysql> select * from Staff39;
+---------+-------+-------+------------+-----+------------+--------+----------+
| staffNo | fName | lName | position   | sex | DOB        | salary | branchNo |
+---------+-------+-------+------------+-----+------------+--------+----------+
| SA9     | Mary  | Howe  | Assistant  | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David | Ford  | Supervisor | M   | 1958-03-24 |  18540 | B003     |
| SG37    | Ann   | Beech | Assistant  | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan | Brand | Manager    | F   | 1940-06-03 |  24720 | B003     |
| SL21    | John  | White | Manager    | M   | 1945-10-01 |  30900 | B005     |
| SL41    | Julie | Lee   | Assistant  | F   | 1965-06-13 |   9270 | B005     |
+---------+-------+-------+------------+-----+------------+--------+----------+
6 rows in set (0.00 sec)
```

2. Give all Managers a 5% pay increase

Before:

```
mysql> select * from Staff39;
+---------+--------+-------+------------+-----+------------+--------+----------+
| staffNo | fName  | lName | position   | sex | DOB        | salary | branchNo |
+---------+--------+-------+------------+-----+------------+--------+----------+
| SA9     | Mary   | Howe  | Assistant  | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David  | Ford  | Supervisor | M   | 1958-03-24 |  18540 | B003     |
| SG37    | Ann    | Beech | Assistant  | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan  | Brand | Manager    | F   | 1940-06-03 |  24720 | B003     |
| SL21    | John   | White | Manager    | M   | 1945-10-01 |  30900 | B005     |
| SL41    | Julie  | Lee   | Assistant  | F   | 1965-06-13 |   9270 | B005     |
+---------+--------+-------+------------+-----+------------+--------+----------+
6 rows in set (0.00 sec)
```

Command: update Staff39 set salary=salary+(salary*5/100) where position="Manager";

After:

```
mysql> select * from Staff39;
+---------+--------+-------+------------+-----+------------+--------+----------+
| staffNo | fName  | lName | position   | sex | DOB        | salary | branchNo |
+---------+--------+-------+------------+-----+------------+--------+----------+
| SA9     | Mary   | Howe  | Assistant  | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David  | Ford  | Supervisor | M   | 1958-03-24 |  18540 | B003     |
| SG37    | Ann    | Beech | Assistant  | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan  | Brand | Manager    | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John   | White | Manager    | M   | 1945-10-01 |  32445 | B005     |
| SL41    | Julie  | Lee   | Assistant  | F   | 1965-06-13 |   9270 | B005     |
+---------+--------+-------+------------+-----+------------+--------+----------+
6 rows in set (0.01 sec)
```

3. Update the price of all rooms by 5%

Before:

```
mysql> select * from PropertyForRent39;
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| propertyNo | street        | city      | postcode | type  | rooms | rent | ownerNo | staffNo | branchNo |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| PA14       | 16 Holhead    | Alberdeen | AB75SU   | House |     6 |  650 | CO46    | SA9     | B007     |
| PG16       | 5 Novar Dr    | Glasgow   | G129AX   | Flat  |     4 |  450 | CO93    | SG14    | B003     |
| PG21       | 18 Dale Rd    | Glasgow   | G12      | House |     5 |  300 | CO87    | SG37    | B003     |
| PG36       | 2 Manor Rd    | Glasgow   | G324Qx   | Flat  |     3 |  375 | CO93    | SG37    | B003     |
| PG4        | 6 Lawrence St | Glasgow   | G119QX   | Flat  |     3 |  350 | CO40    | NULL    | B003     |
| PL94       | 6 Argyll St   | London    | NW2      | Flat  |     4 |  400 | CO87    | SL41    | B005     |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
6 rows in set (0.00 sec)
```

Command: update PropertForRent39 set rent= rent+(rent*5/100);

After:

```
mysql> select * from PropertyForRent39;
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| propertyNo | street        | city      | postcode | type  | rooms | rent | ownerNo | staffNo | branchNo |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| PA14       | 16 Holhead    | Alberdeen | AB75SU   | House |     6 |  683 | CO46    | SA9     | B007     |
| PG16       | 5 Novar Dr    | Glasgow   | G129AX   | Flat  |     4 |  473 | CO93    | SG14    | B003     |
| PG21       | 18 Dale Rd    | Glasgow   | G12      | House |     5 |  315 | CO87    | SG37    | B003     |
| PG36       | 2 Manor Rd    | Glasgow   | G324Qx   | Flat  |     3 |  394 | CO93    | SG37    | B003     |
| PG4        | 6 Lawrence St | Glasgow   | G119QX   | Flat  |     3 |  368 | CO40    | NULL    | B003     |
| PL94       | 6 Argyll St   | London    | NW2      | Flat  |     4 |  420 | CO87    | SL41    | B005     |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
6 rows in set (0.00 sec)
```

4. Promote David Ford to Manager and change his salary to £18,000.

4. Promote David Ford to Manager and change his salary to £18,000.

Before:

```
mysql> select * from Staff39;
+---------+--------+-------+------------+-----+------------+--------+----------+
| staffNo | fName  | lName | position   | sex | DOB        | salary | branchNo |
+---------+--------+-------+------------+-----+------------+--------+----------+
| SA9     | Mary   | Howe  | Assistant  | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David  | Ford  | Supervisor | M   | 1958-03-24 |  18540 | B003     |
| SG37    | Ann    | Beech | Assistant  | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan  | Brand | Manager    | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John   | White | Manager    | M   | 1945-10-01 |  32445 | B005     |
| SL41    | Julie  | Lee   | Assistant  | F   | 1965-06-13 |   9270 | B005     |
+---------+--------+-------+------------+-----+------------+--------+----------+
6 rows in set (0.01 sec)
```

Command: update Staff39 set position="Manager",salary=18000 where Fname="David" and lName="Ford";

After:

```
mysql> select * from Staff39;
+---------+--------+-------+-----------+-----+------------+--------+----------+
| staffNo | fName  | lName | position  | sex | DOB        | salary | branchNo |
+---------+--------+-------+-----------+-----+------------+--------+----------+
| SA9     | Mary   | Howe  | Assistant | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David  | Ford  | Manager   | M   | 1958-03-24 |  18000 | B003     |
| SG37    | Ann    | Beech | Assistant | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan  | Brand | Manager   | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John   | White | Manager   | M   | 1945-10-01 |  32445 | B005     |
| SL41    | Julie  | Lee   | Assistant | F   | 1965-06-13 |   9270 | B005     |
+---------+--------+-------+-----------+-----+------------+--------+----------+
6 rows in set (0.00 sec)
```

5. Delete all viewing that relate to property PG4.

Before:

```
mysql> select * from Viewing39;
+----------+------------+------------+----------------+
| clientNo | propertyNo | viewDate   | comment        |
+----------+------------+------------+----------------+
| CR56     | PA14       | 2004-05-24 | too small      |
| CR56     | PG36       | 2004-04-28 |                |
| CR56     | PG4        | 2004-05-26 |                |
| CR62     | PA14       | 2004-05-14 | no dining room |
| CR76     | PG4        | 2004-04-20 | too remote     |
+----------+------------+------------+----------------+
5 rows in set (0.00 sec)
```

Command: delete from Viewing39 where propertyNo="PG4";

After:

```
mysql> delete from Viewing39 where propertyNo="PG4";
Query OK, 2 rows affected (0.10 sec)

mysql> select * from Viewing39;
+----------+------------+------------+----------------+
| clientNo | propertyNo | viewDate   | comment        |
+----------+------------+------------+----------------+
| CR56     | PA14       | 2004-05-24 | too small      |
| CR56     | PG36       | 2004-04-28 |                |
| CR62     | PA14       | 2004-05-14 | no dining room |
+----------+------------+------------+----------------+
3 rows in set (0.00 sec)
```

6. Delete all rows from the Viewing table.

Before:

```
mysql> select * from Viewing39;
+----------+------------+------------+----------------+
| clientNo | propertyNo | viewDate   | comment        |
+----------+------------+------------+----------------+
| CR56     | PA14       | 2004-05-24 | too small      |
| CR56     | PG36       | 2004-04-28 |                |
| CR62     | PA14       | 2004-05-14 | no dining room |
+----------+------------+------------+----------------+
3 rows in set (0.00 sec)
```

Command: delete from Viewing39;

After:

```
mysql> delete from Viewing39;
Query OK, 3 rows affected (0.11 sec)

mysql> select * from Viewing39;
Empty set (0.00 sec)
```

Part 2 – Select

1. List full details of all staff.

Command: select * from Staff39;

Output:

```
mysql> select * from Staff39;
+---------+--------+-------+-----------+-----+------------+--------+----------+
| staffNo | fName  | lName | position  | sex | DOB        | salary | branchNo |
+---------+--------+-------+-----------+-----+------------+--------+----------+
| SA9     | Mary   | Howe  | Assistant | F   | 1970-02-19 |   9270 | B007     |
| SG14    | David  | Ford  | Manager   | M   | 1958-03-24 |  18000 | B003     |
| SG37    | Ann    | Beech | Assistant | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan  | Brand | Manager   | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John   | White | Manager   | M   | 1945-10-01 |  32445 | B005     |
| SL41    | Julie  | Lee   | Assistant | F   | 1965-06-13 |   9270 | B005     |
+---------+--------+-------+-----------+-----+------------+--------+----------+
6 rows in set (0.00 sec)
```

2. Produce a list of salaries for all staff, showing only the staff number, the first and last names, and the salary details.

Output:

```
mysql> select staffNo,fName,lName,salary from Staff39;
+---------+--------+-------+--------+
| staffNo | fName  | lName | salary |
+---------+--------+-------+--------+
| SA9     | Mary   | Howe  |   9270 |
| SG14    | David  | Ford  |  18000 |
| SG37    | Ann    | Beech |  12360 |
| SG5     | Susan  | Brand |  25956 |
| SL21    | John   | White |  32445 |
| SL41    | Julie  | Lee   |   9270 |
+---------+--------+-------+--------+
6 rows in set (0.00 sec)
```

3. List the property numbers of all properties that have been viewed.

Output:

```
mysql> select propertyNo from Viewing39 where comment!="";
+------------+
| propertyNo |
+------------+
| PA14       |
| PA14       |
| PG4        |
+------------+
3 rows in set (0.00 sec)
```

4. Produce a list of monthly salaries for all staff, showing the staff number, the first and last names, and the salary details.

Output:

```
mysql> select staffNo,fName,lName,salary/12 from Staff39;
+---------+-------+-------+-----------+
| staffNo | fName | lName | salary/12 |
+---------+-------+-------+-----------+
| SA9     | Mary  | Howe  |  772.5000 |
| SG14    | David | Ford  | 1500.0000 |
| SG37    | Ann   | Beech | 1030.0000 |
| SG5     | Susan | Brand | 2163.0000 |
| SL21    | John  | White | 2703.7500 |
| SL41    | Julie | Lee   |  772.5000 |
+---------+-------+-------+-----------+
6 rows in set (0.00 sec)
```

5. List all staff with a salary greater than £10,000.

Output:

```
mysql> select * from Staff39 where salary>10000;
+---------+-------+-------+-----------+-----+------------+--------+----------+
| staffNo | fName | lName | position  | sex | DOB        | salary | branchNo |
+---------+-------+-------+-----------+-----+------------+--------+----------+
| SG14    | David | Ford  | Manager   | M   | 1958-03-24 |  18000 | B003     |
| SG37    | Ann   | Beech | Assistant | F   | 1960-11-10 |  12360 | B003     |
| SG5     | Susan | Brand | Manager   | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John  | White | Manager   | M   | 1945-10-01 |  32445 | B005     |
+---------+-------+-------+-----------+-----+------------+--------+----------+
4 rows in set (0.00 sec)
```

6. List the addresses of all branch offices in London or Glasgow.

Output:

```
mysql> select street from Branch39 where city="London" or city="Glasgow";
+-------------+
| street      |
+-------------+
| 56 Clover Dr |
| 163 Main St  |
| 22 Deer Rd   |
+-------------+
3 rows in set (0.00 sec)
```

7. List all staff with a salary between £20,000 and £30,000.

Output:

```
mysql> select * from Staff39 where salary>20000 and salary<30000;
+---------+-------+-------+----------+-----+------------+--------+----------+
| staffNo | fName | lName | position | sex | DOB        | salary | branchNo |
+---------+-------+-------+----------+-----+------------+--------+----------+
| SG5     | Susan | Brand | Manager  | F   | 1940-06-03 |  25956 | B003     |
+---------+-------+-------+----------+-----+------------+--------+----------+
1 row in set (0.00 sec)
```

8. List all managers and supervisors.

Output:

```
mysql> select * from Staff39 where position="Supervisor" or position="Manager";
+---------+-------+-------+----------+-----+------------+--------+----------+
| staffNo | fName | lName | position | sex | DOB        | salary | branchNo |
+---------+-------+-------+----------+-----+------------+--------+----------+
| SG14    | David | Ford  | Manager  | M   | 1958-03-24 |  18000 | B003     |
| SG5     | Susan | Brand | Manager  | F   | 1940-06-03 |  25956 | B003     |
| SL21    | John  | White | Manager  | M   | 1945-10-01 |  32445 | B005     |
+---------+-------+-------+----------+-----+------------+--------+----------+
3 rows in set (0.00 sec)
```

9. Find all owners with the string 'Glasgow' in their address

Output:

```
mysql> select * from PrivateOwner39 where address like "%Glasgow%";
+---------+-------+--------+--------------------------+------------+
| ownerNo | fName | lName  | address                  | telNo      |
+---------+-------+--------+--------------------------+------------+
| C040    | Tina  | Murphy | 63 Well St,Glasgow G42   | 1419431728 |
| C087    | Carol | Farrel | 6 Achary St,Glasgow G329DX | 1413577419 |
| C093    | Tony  | Shaw   | 12 Park Pl,Glasgow G40QR | 1412257025 |
+---------+-------+--------+--------------------------+------------+
3 rows in set (0.00 sec)
```

10. List the details of all viewings on property PG4 where a comment has not been supplied.

Output:

```
mysql> select * from Viewing39 where comment="";
+----------+------------+------------+---------+
| clientNo | propertyNo | viewDate   | comment |
+----------+------------+------------+---------+
| CR56     | PG36       | 2004-04-28 |         |
| CR56     | PG4        | 2004-05-26 |         |
+----------+------------+------------+---------+
2 rows in set (0.00 sec)
```

11. Produce a list of salaries for all staff, arranged in descending order of salary.

Output:

```
mysql> select salary from Staff39 order by salary desc;
+--------+
| salary |
+--------+
|  32445 |
|  25956 |
|  18000 |
|  12360 |
|   9270 |
|   9270 |
+--------+
6 rows in set (0.00 sec)
```

12. Produce an abbreviated list of properties arranged in order of property type.

Output:

```
mysql> select * from PropertyForRent39 order by type;
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| propertyNo | street        | city      | postcode | type  | rooms | rent | ownerNo | staffNo | branchNo |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
| PG16       | 5 Novar Dr    | Glasgow   | G129AX   | Flat  |     4 |  473 | CO93    | SG14    | B003     |
| PG36       | 2 Manor Rd    | Glasgow   | G324Qx   | Flat  |     3 |  394 | CO93    | SG37    | B003     |
| PG4        | 6 Lawrence St | Glasgow   | G119QX   | Flat  |     3 |  368 | CO40    | NULL    | B003     |
| PL94       | 6 Argyll St   | London    | NW2      | Flat  |     4 |  420 | CO87    | SL41    | B005     |
| PA14       | 16 Holhead    | Alberdeen | AB75SU   | House |     6 |  683 | CO46    | SA9     | B007     |
| PG21       | 18 Dale Rd    | Glasgow   | G12      | House |     5 |  315 | CO87    | SG37    | B003     |
+------------+---------------+-----------+----------+-------+-------+------+---------+---------+----------+
6 rows in set (0.00 sec)
```

Submitted By

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