Session 2 Reflection

1. selects all the values of a specific column;

SELECT company\_email FROM Employees;

butrner@suns.com

sconor@suns.com

2. selects all the rows in which a column matches a specific value;

SELECT \* FROM Equipment WHERE equipment\_type = 'Monitor';

1|45RN345|Monitor|1

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

3. selects all the rows that match a conjunction of two conditions;

SELECT \* FROM Equipment WHERE equipment\_type = "Monitor" AND employee\_id = 2;

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

4. selects all the rows that match a disjunction of two conditions;

SELECT \* FROM Equipment WHERE equipment\_type = "Monitor" OR employee\_id = 2;

1|45RN345|Monitor|1

3|98BNK19|Monitor|2

4|234YTRU7|PC|2

5|9809K19|Monitor|2

5. produces a concatenation of two columns;

SELECT fname || ' ' || lname as fullName FROM Employees;

Bill Turner

Sarah Conor

6. includes a filtering into two or more sub-cases;

SELECT equipment\_id, equipment\_type,

CASE

WHEN equipment\_type = "PC" THEN "To be retired"

WHEN equipment\_type = "Monitor" AND employee\_id = 1 THEN "New"

ELSE "Old"

END AS status

FROM Equipment;

1|Monitor|New

2|PC|To be retired

3|Monitor|Old

4|PC|To be retired

5|Monitor|Old

7. orders the rows by a column value in increasing order;

SELECT \* FROM Equipment ORDER BY serial\_number ASC;

4|234YTRU7|PC|2

1|45RN345|Monitor|1

5|9809K19|Monitor|2

3|98BNK19|Monitor|2

2|RTEU658|PC|1

8. shows only the top k > 0 rows with the highest values for a specific column for some fixed values of k;

SELECT \* FROM Equipment ORDER BY serial\_number DESC LIMIT 3;

2|RTEU658|PC|1

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

9. shows only the bottom k rows with the lowest values for a specific column.

--Order by single column—

SELECT \* FROM Equipment ORDER BY serial\_number ASC LIMIT 3;

4|234YTRU7|PC|2

1|45RN345|Monitor|1

5|9809K19|Monitor|2

--Order by multiple columns--

SELECT \* FROM (

SELECT \* FROM Equipment

ORDER BY serial\_number ASC LIMIT 3

) as bottom3 ORDER BY equipment\_id, equipment\_type;

1|45RN345|Monitor|1

4|234YTRU7|PC|2

5|9809K19|Monitor|2

**Full SQL code:**

CREATE TABLE Employees

(employee\_id INTEGER PRIMARY KEY AUTOINCREMENT,

fname VARCHAR(20),

lname VARCHAR(20),

company\_email VARCHAR(30),

username VARCHAR(20),

department\_id SMALLINT,

CONSTRAINT fk\_employees\_departments FOREIGN KEY (department\_id)

REFERENCES Departments (department\_id));

CREATE TABLE Departments

(department\_id INTEGER PRIMARY KEY AUTOINCREMENT,

dname VARCHAR(20));

CREATE TABLE Equipment

(equipment\_id INTEGER PRIMARY KEY AUTOINCREMENT,

serial\_number VARCHAR(30),

equipment\_type VARCHAR(20),

employee\_id SMALLINT,

CONSTRAINT fk\_equipment\_employees FOREIGN KEY (employee\_id)

REFERENCES Employees (employment\_id));

INSERT INTO Employees

(fname, lname, company\_email, username)

VALUES ('Bill', 'Turner', 'butrner@suns.com', 'CC\_Bill');

INSERT INTO Employees

(fname, lname, company\_email, username)

VALUES ('Sarah', 'Conor', 'sconor@suns.com', 'CC\_Sarah');

INSERT INTO Departments

(department\_id, dname)

VALUES (1, 'Call Center');

INSERT INTO Departments

(department\_id, dname)

VALUES (2, 'Dispatch');

INSERT INTO Equipment

(serial\_number, equipment\_type, employee\_id)

VALUES ('45RN345', 'Monitor', 1);

INSERT INTO Equipment

(serial\_number, equipment\_type, employee\_id)

VALUES ('RTEU658', 'PC', 1);

INSERT INTO Equipment

(serial\_number, equipment\_type, employee\_id)

VALUES ('98BNK19', 'Monitor', 2);

INSERT INTO Equipment

(serial\_number, equipment\_type, employee\_id)

VALUES ('234YTRU7', 'PC', 2);

INSERT INTO Equipment

(serial\_number, equipment\_type, employee\_id)

VALUES ('9809K19', 'Monitor', 2);

.print "---select all values from the tables used in the reflection---"

.print "--Employees table--"

SELECT \* FROM Employees;

.print ""

.print "--Equipment table--"

SELECT \* FROM Equipment;

.print ""

.print "---1. Selects all values from a specific column - company\_email---"

SELECT company\_email FROM Employees;

.print ""

.print "---2. Selects all the rows in which a column matches a specific value---"

SELECT \* FROM Equipment WHERE equipment\_type = 'Monitor';

.print ""

.print "---3. Selects all the rows that match a conjunction of two conditions---"

SELECT \* FROM Equipment WHERE equipment\_type = "Monitor" AND employee\_id = 2;

.print ""

.print "---4. Selects all the rows that match a disjunction of two conditions---"

SELECT \* FROM Equipment WHERE equipment\_type = "Monitor" OR employee\_id = 2;

.print ""

.print "---5. Produces a concatenation of two columns---"

SELECT fname || ' ' || lname as fullName FROM Employees;

.print ""

.print "---6. Includes a filtering into two or more sub-cases---"

SELECT equipment\_id, equipment\_type,

CASE

WHEN equipment\_type = "PC" THEN "To be retired"

WHEN equipment\_type = "Monitor" AND employee\_id = 1 THEN "New"

ELSE "Old"

END AS status

FROM Equipment;

.print ""

.print "---7. Orders the rows by a column value in increasing order---"

SELECT \* FROM Equipment ORDER BY serial\_number ASC;

.print ""

.print "---8. Shows only the top k > 0 rows with the highest values for a specific column for some fixed values of k"

SELECT \* FROM Equipment ORDER BY serial\_number DESC LIMIT 3;

.print ""

.print "---9. Shows only the bottom k rows with the lowest values for a specific column---"

.print "--Order by single column--"

SELECT \* FROM Equipment ORDER BY serial\_number ASC LIMIT 3;

.print ""

.print "--Order by multiple columns--"

SELECT \* FROM (

SELECT \* FROM Equipment

ORDER BY serial\_number ASC LIMIT 3

) as bottom3 ORDER BY equipment\_id, equipment\_type;

.print ""

Full Results

---select all values from the tables used in the reflection---

--Employees table--

1|Bill|Turner|butrner@suns.com|CC\_Bill|

2|Sarah|Conor|sconor@suns.com|CC\_Sarah|

--Equipment table--

1|45RN345|Monitor|1

2|RTEU658|PC|1

3|98BNK19|Monitor|2

4|234YTRU7|PC|2

5|9809K19|Monitor|2

---1. Selects all values from a specific column - company\_email---

butrner@suns.com

sconor@suns.com

---2. Selects all the rows in which a column matches a specific value---

1|45RN345|Monitor|1

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

---3. Selects all the rows that match a conjunction of two conditions---

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

---4. Selects all the rows that match a disjunction of two conditions---

1|45RN345|Monitor|1

3|98BNK19|Monitor|2

4|234YTRU7|PC|2

5|9809K19|Monitor|2

---5. Produces a concatenation of two columns---

Bill Turner

Sarah Conor

---6. Includes a filtering into two or more sub-cases---

1|Monitor|New

2|PC|To be retired

3|Monitor|Old

4|PC|To be retired

5|Monitor|Old

---7. Orders the rows by a column value in increasing order---

4|234YTRU7|PC|2

1|45RN345|Monitor|1

5|9809K19|Monitor|2

3|98BNK19|Monitor|2

2|RTEU658|PC|1

---8. Shows only the top k > 0 rows with the highest values for a specific column for some fixed values of k

2|RTEU658|PC|1

3|98BNK19|Monitor|2

5|9809K19|Monitor|2

---9. Shows only the bottom k rows with the lowest values for a specific column---

--Order by single column--

4|234YTRU7|PC|2

1|45RN345|Monitor|1

5|9809K19|Monitor|2

--Order by multiple columns--

1|45RN345|Monitor|1

4|234YTRU7|PC|2

5|9809K19|Monitor|2