Reporting with SQL Part 4 Notes

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1 Differences Between Databases

2 Creating Up-to-the-minute Reports

- Writing Today's date
  - SQLite
    * **Syntax (Current Date):** DATE("now")
    * **Syntax (Current Time):** TIME("now")
    * **Syntax (Current Date Time):** DATETIME("NOW")
  - MySQL
  - * **Syntax (Current Date):** CURDATE()
    * **Syntax (Current Time):** CURTIME()
    * **Syntax (Current Date Time):** NOW()
  - Oracle and PostgreSQL
  - * **Syntax (Current Date):** CURRENT_DATE
    * **Syntax (Current Time):** CURRENT_TIME
    * **Syntax (Current Date Time):** CURRENT_TIMESTAMP

  Exmaple:

```
1    SELECT * FROM orders WHERE status = "placed" AND ordered_on = DATE
     ("now");
2
```

1

3 Exercise 1

- Solution included in *exercise_1.sql*

4 Calculating Dates

- **Syntax 1:** DATE(*time string*)

    – NOTE: the only recognized time string format is 'YYYY-MM-DD'

- **Syntax 2:** DATE(*time string, modifier, ...*)

    Example:

```
DATE("2016-02-01", "-7 days") # 2016-01-25


DATE("2016-02-01", "+7 days") # 2016-02-08


DATE("2016-02-01", "+7 months") # 2016-09-01


DATE("2016-02-01", "+7 years") # 2023-02-01


SELECT COUNT(*) FROM orders WHERE ordered_on
    BETWEEN DATE("now", "-7 days")
    AND DATE("now", "-1 day");
```

5 Exercise 2

- Solution included in *exercise_2.sql*

6 Formatting Dates For Reporting

- From datetime string to date string

  - **Syntax:** DATE(*datetime string*) → *date string*

- From datetime string to time string

  - **Syntax:** TIME(*datetime string*) → *date string*

Example:

```
1    DATE("2015-04-01 23:12:01") # "2015-04-01"
2
3
4    TIME("2015-04-01 23:12:01") # "23:12:01"
5
```

- STRFTIME()

  - Formats date string / time string / datetime string into human readible format
  - **Syntax:** STRFTIME(*format string, time string, modifier*)

Example:

```
1    STRFTIME("%d/%m/%Y", "2015-04-01 23:12:01") # 01/04/2015
2
3
4    STRFTIME("%d/%m/%Y", "2015-04-01 23:12:01", "+1 year") #
     01/04/2016
5
6
7    SELECT *, STRFTIME("%d/%m/%Y", ordered_on) AS UK_date FROM orders;
8
```

7 Exercise 3

- Solution included in *exercise_3.sql*

8   Practice Session

9   Quiz 1

1. Counting all values in a specific column will count all rows including empty or NULL values.

   A. True
   B. False

   Answer: B

2. LENGTH() is described as a:

   A. Operator
   B. Keyword
   C. Function

   Answer: C

3. What function would I use to get the average of numeric values in a column?

   A. AVG();
   B. AVERAGE();

   Answer: A

4. Please fill in the correct answer in each blank provided below.

   The ___ keyword is used after the ORDER BY clause to order dates from the most recent to the furthest back in time.

   Answer: DESC

5. What will this function return?

```
1    TIME("2016-10-11 23:59:00", "+2 minutes")
2
```

    A. "2016-10-12 00:01:00"

    B. "2016-10-12"

    C. "00:01:00"

Answer: C

6. Please fill in the correct answer in each blank provided below.

    The ___ function is used to make strings uppercase.

    Answer: UPPER

7. Which of the following is the correct way to use the STRFTIME() function?

    A. STRFTIME("3118-12-01", "%Y-%m-%d", "+3 years")

    B. STRFTIME("%Y-%m-%d", "3118-12-01")

    C. STRFTIME("3118-12-01", "+3 years", "%Y-%m-%d")

    Answer: B

8. What will the following function return?

    A. "2016-02-10"

    B. "2017-02-10"

    C. "2017-02-10 22:21:23"

    Answer: B

9. Please fill in the correct answer in each blank provided below.

    ___ BY is used to aggregate rows together.

    Answer: GROUP

10. Please fill in the correct answer in each blank provided below.

    ___ is the operator you'd use to add two pieces of text together in SQLite/SQL Playground.

    Answer: ||

11. What will this date and modifier produce?

```
1    DATE("now", "+1 day")
2
```

    A. Yesterday

    B. Today

    C. Tomorrow

Answer: C

12. If today was the 8th July 2018, how would I write that date in SQLite/SQL Playground?

    A. "2018-08-07"

    B. "2018-07-08"

    C. "07-08-2018"

    D. "08-07-2018"

Answer: B

13. Please fill in the correct answer in each blank provided below.

    ___ is a keyword that can be used in conjunction with LIMIT to page through results.

Answer: OFFSET

14. What is the correct way of using the REPLACE() function for replacing "javascript" with "JavaScript" ?

    A. SELECT REPLACE("javascript", "JavaScript", "I can't capitalize javascript correctly!");

    B. SELECT REPLACE("I can't capitalize javascript correctly!", "javascript", "JavaScript");

    C. SELECT REPLACE("JavaScript", "javascript", "I can't capitalize javascript correctly!");

    D. SELECT REPLACE("I can't capitalize javascript correctly!", "JavaScript", "javascript");

Answer: B

15. The - is a(n):

    A. Operator

    B. Keyword

    C. Function

Answer: A