Does MySQL have a loop query? 🧐

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Table of Contents 📚

1. Why did I choose this topic?

2. How to approach the solution?

3. Does MySQL have a loop query?

4. Pro and Cons

5. Conclusion

Why did I choose this topic? 🤪

ANIMAL_ID	NAME	DATETIME
1	Daisy	2013-12-22 11:30:42
2	Allice	2015-03-19 11:02:11
3	Spice	2017-01-01 17:00:00
4	Sugar	2002-04-24 14:24:35

Why did I choose this topic? 🤪

HOUR	COUNT
0	0
1	0
2	0
…	0
11	2
…	0
14	1
…	0
17	1
…	0
23	0

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How to approach the solution? 🥹

1. A temporary table with CREATE statement and TEMPORARY keyword.

   > Have no permission 😓

2. Object-Relational Mapping (ORM) with for loop

   > This is a problem-solving only with SQL 😓

3. A virtual table with SELECT statement and UNION.

   > Should I copy and paste? 😫

4. Maybe, there is a loop or a range function or query in MySQL

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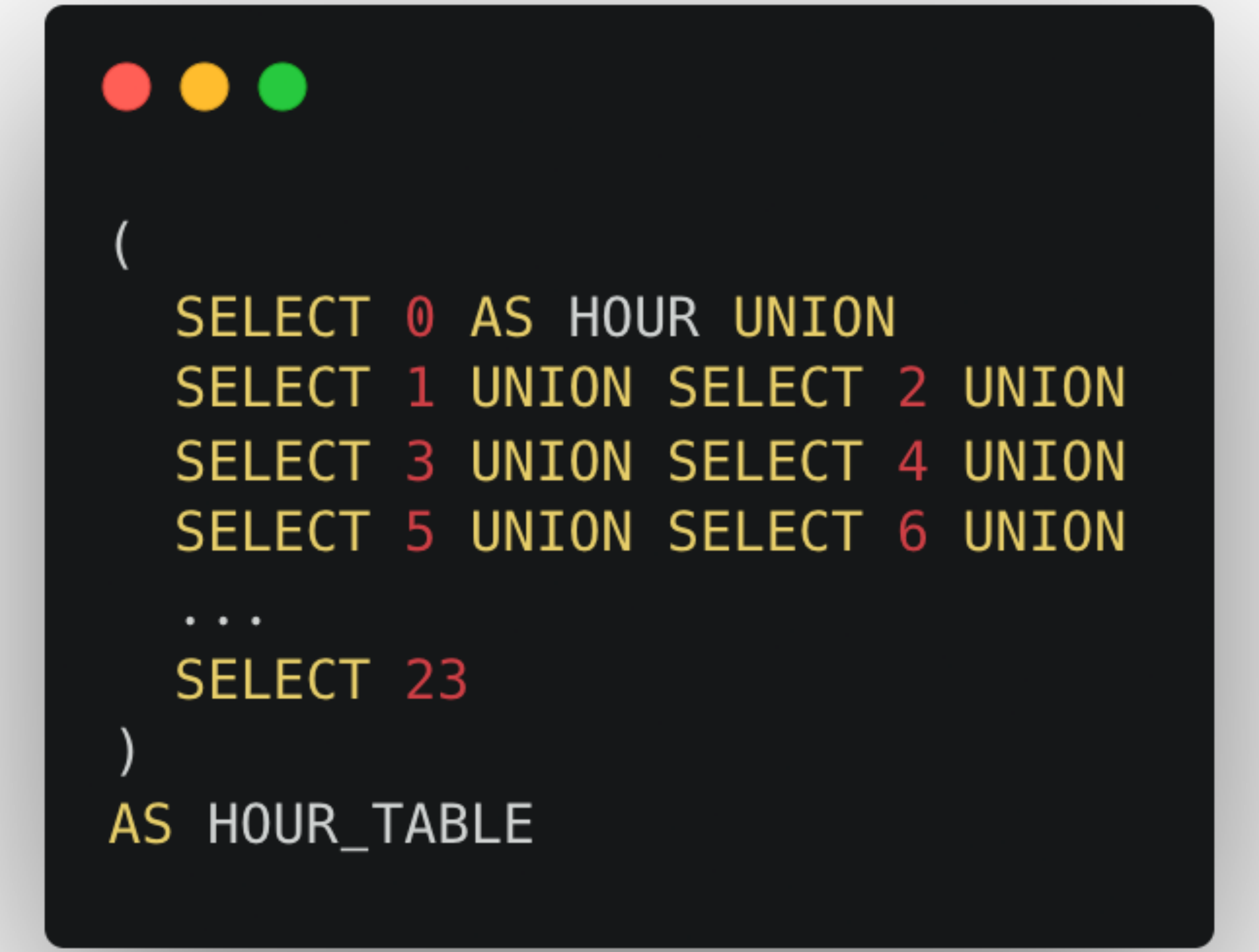
How to approach the solution? 🥹



```
(
  SELECT 0 AS HOUR UNION
  SELECT 1 UNION SELECT 2 UNION
  SELECT 3 UNION SELECT 4 UNION
  SELECT 5 UNION SELECT 6 UNION
  ...
  SELECT 23
)
AS HOUR_TABLE
```

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Does MySQL have a loop query? 🧐

Relational management targets the entire relationship.

The purpose of this is to exclude any repetitions.

This condition must be met because of the end-users productivity.

Only then will it be possible to increase the productivity of programmers.

- Edgar F. Codd <Relational database : a practical foundation for productivity> (1989)

Does MySQL have a loop query? 🧐

1. Internal process

   > CASCADE DELETE or CASCADE UPDATE

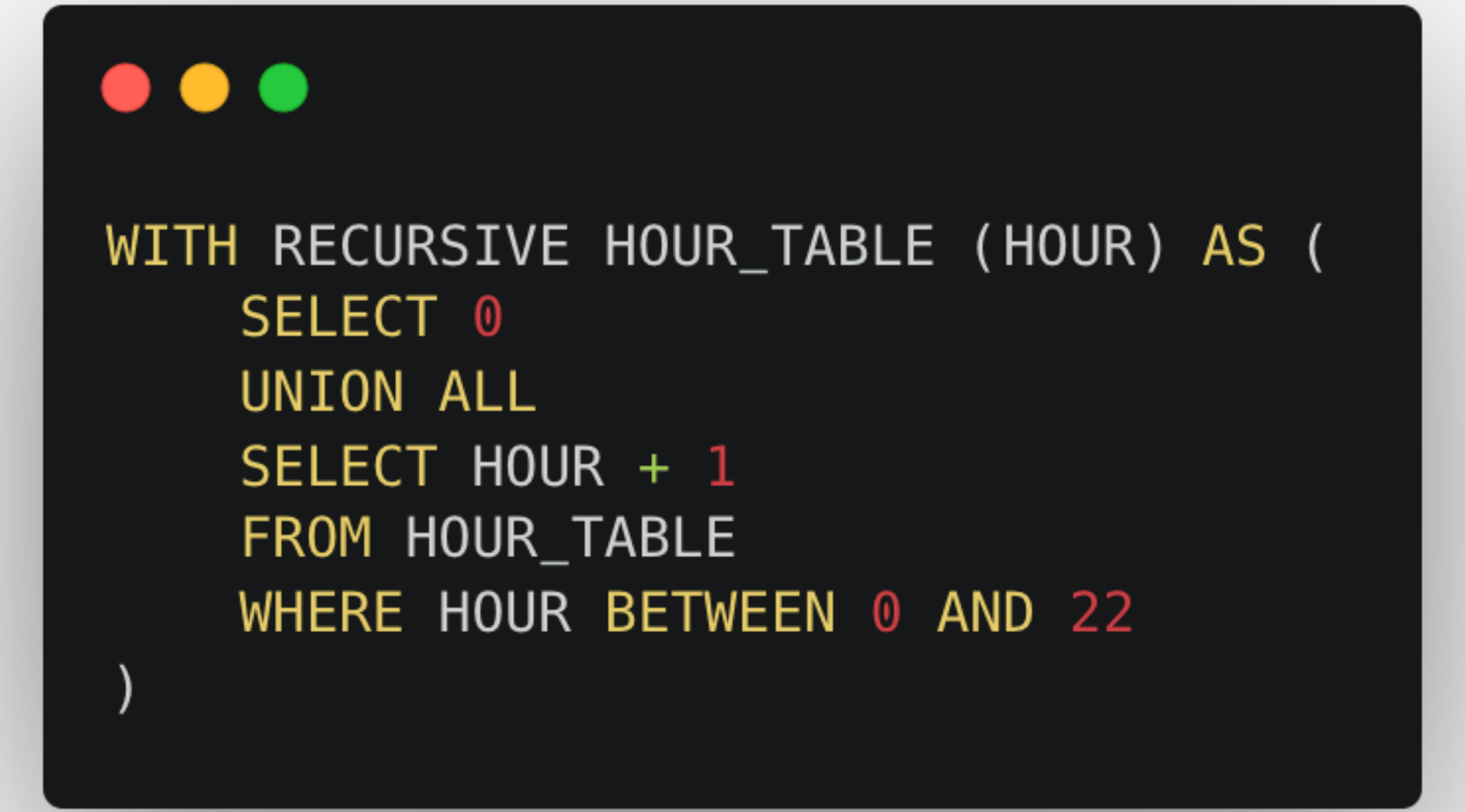
2. CASE statement

   > When there are limitations of repetitions

3. Recursion common table expression

   > WITH RECURSIVE statement with UNION ALL keyword and WHERE statement

Does MySQL have a loop function? 🧐



```
WITH RECURSIVE HOUR_TABLE (HOUR) AS (
    SELECT 0
    UNION ALL
    SELECT HOUR + 1
    FROM HOUR_TABLE
    WHERE HOUR BETWEEN 0 AND 22
)
```

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Pro and Con 🤯

Pro 👍

1. Safety with the simple execution plan
2. High precision of the estimated processing time
3. Easy to control the transactions

VS

Con 👎

1. Execution Overhead
2. Hard to parallelize the distribution
3. Almost impossible to tune

Conclusion 🥳

1. Basically, SQL has no loop query.

2. It executes a loop internally such as with CASCADE.

3. The execution of the loop makes its plan safer and it easier to control transactions.

4. CASE statement with limited repetitions

5. WITH RECURSIVE statement without limitations