

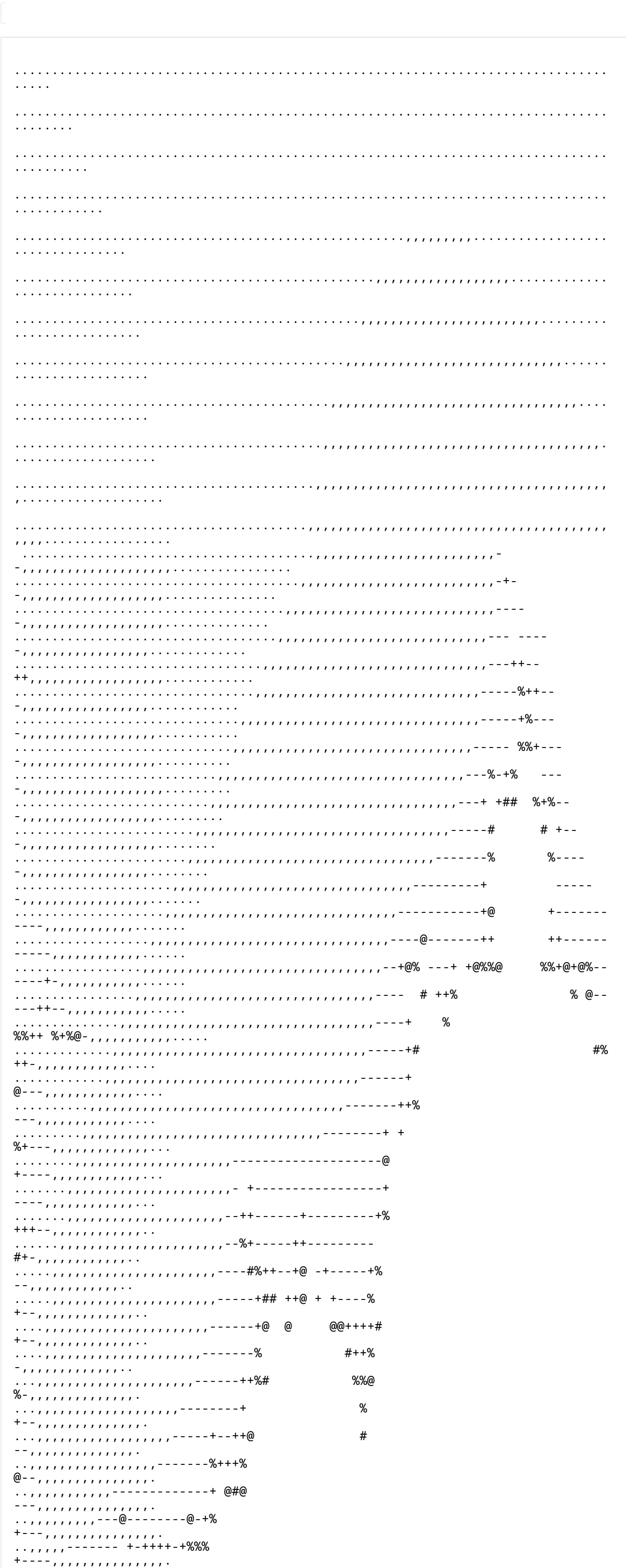
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Mandelbrot set

This SQL query (requires PostgreSQL 8.4) produces an ASCII-art image of the Mandelbrot set. It is written entirely in SQL:2008-conformant SQL.

```
WITH RECURSIVE
x(i)
AS (
    VALUES(0)
UNION ALL
    SELECT i + 1 FROM x WHERE i < 101
),
Z(Ix, Iy, Cx, Cy, X, Y, I)
AS (
    SELECT Ix, Iy, X::float, Y::float, X::float,
Y::float, 0
    FROM
        (SELECT -2.2 + 0.031 * i, i FROM x) AS xgen(x,ix)
    CROSS JOIN
        (SELECT -1.5 + 0.031 * i, i FROM x) AS ygen(y,iy)
    UNION ALL
    SELECT Ix, Iy, Cx, Cy, X * X - Y * Y + Cx AS X, Y * X
    * 2 + Cy, I + 1
    FROM Z
    WHERE X * X + Y * Y < 16.0
    AND I < 27
),
Zt (Ix, Iy, I) AS (
    SELECT Ix, Iy, MAX(I) AS I
    FROM Z
    GROUP BY Iy, Ix
    ORDER BY Iy, Ix
)
SELECT array_to_string(
    array_agg(
        SUBSTRING(
            ' .,.,.,-+---+%%%%@#@##### ',
            GREATEST(I,1),
            1
        )
    ), ''
)
FROM Zt
GROUP BY Iy
ORDER BY Iy;
```

Results



Fun Snippets

Mandelbrot set

Works with PostgreSQL

8.4

Written in

SQL

Depends on

Nothing

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