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Below is a SQL solution to the challenge of May 2019 (Map Coloring).

The txt below can be copied to "map\_coloring.sql", or simply cut and paste everything into Postgres or SQL Server.

Note: There are 144 solutions

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-- File: map_coloring.sql
-- Version: 1.1
-- Last Changed: 2020-02-27
-- by: Damir; https://www.damirsystems.com
-- Project: Map Coloring
-- Description: Fun challenge from Decision Management Community
-- https://dmcommunity.org/challenge/challenge-may-2019/
-- DB: PostgreSQL, MS SQL Server
```

```
WITH
color AS ( -- Blue, Red, Green, Yellow
  SELECT p FROM (
    VALUES ('B'), ('R'), ('G'), ('Y')
  ) AS x(p)
),
possible AS ( -- generate 4^6 = 4096 possible combinations
  SELECT
    a.p AS BE -- Belgium
    , b.p AS DK -- Denmark
    , c.p AS FR -- France
    , d.p AS DE -- Germany
    , e.p AS LU -- Luxembourg
    , f.p AS NL -- Netherlands
  FROM   color AS a
  CROSS JOIN color AS b
  CROSS JOIN color AS c
  CROSS JOIN color AS d
  CROSS JOIN color AS e
  CROSS JOIN color AS f
)
SELECT BE, DK, FR, DE, LU, NL
FROM possible

WHERE (1=1) -- apply constraints

-- BE borders FR, LU, DE, NL
```

AND BE NOT IN (FR, LU, DE, NL)

-- DK borders DE  
AND DK NOT IN (DE)

-- FR borders BE, LU, DE  
AND FR NOT IN (BE, LU, DE)

-- DE borders FR, LU, BE, NL, DK  
AND DE NOT IN (FR, LU, BE, NL, DK)

-- LU borders FR, DE, BE  
AND LU NOT IN (FR, DE, BE)

-- NL borders BE, DE  
AND NL NOT IN (BE, DE)

-- order results  
ORDER BY BE, DK, FR, DE, LU, NL  
;