HW1\_110550103

Q1.The process of creating the "lego" databases.

Using pdAdmin4 create database.

一張含有 文字, 軟體, 數字, 電腦圖示 的圖片

自動產生的描述

Click save, then database "lego" is created.

一張含有 文字, 軟體, 電腦圖示, 多媒體軟體 的圖片

自動產生的描述

Q2.The process of importing eight required .csv files into lego database. Please include/describe the data type and keys of the imported table in your screenshot, SQL statements, and explanations.

Using Table to create table

一張含有 文字, 軟體, 圖表, 電腦圖示 的圖片

自動產生的描述

colors:

一張含有 文字, 螢幕擷取畫面, 軟體, 電腦圖示 的圖片

自動產生的描述

id is unique, so I set it as Not NULL and primary key.

一張含有 文字, 螢幕擷取畫面, 數字, 軟體 的圖片

自動產生的描述

Import colors.csv file

一張含有 文字, 螢幕擷取畫面, 軟體, 數字 的圖片

自動產生的描述

一張含有 文字, 螢幕擷取畫面, 軟體, 陳列 的圖片

自動產生的描述

inventories:

Table creation is as same as "color" do

Id is unique, so I set it as Not NULL and primary key.

Import inventories.csv as "color" do.

一張含有 文字, 螢幕擷取畫面, 軟體, 數字 的圖片

自動產生的描述

inventory\_parts:

Table creation is as same as "color" do

Every attribute is not unique, so I didn't set primary key.

Import inventory\_parts.csv as "color" do.

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述

inventory\_sets:

Table creation is as same as "color" do

set\_num is unique, so I set it as Not NULL and primary key.

Import inventory\_sets.csv as "color" do.

一張含有 文字, 螢幕擷取畫面, 數字, 陳列 的圖片

自動產生的描述

part\_categories:

Table creation is as same as "color" do

id is unique, so I set it as Not NULL and primary key.

Import part\_categories.csv as "color" do.

一張含有 文字, 螢幕擷取畫面, 軟體, 陳列 的圖片

自動產生的描述

parts:

Table creation is as same as "color" do

part\_num is unique, so I set it as Not NULL and primary key.

Import parts.csv as "color" do.

一張含有 文字, 螢幕擷取畫面, 軟體, 陳列 的圖片

自動產生的描述

sets:

Table creation is as same as "color" do

set\_num is unique, so I set it as Not NULL and primary key.

Import sets.csv as "color" do.

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自動產生的描述

themes:

Table creation is as same as "color" do

id is unique, so I set it as Not NULL and primary key.

Import themes.csv as "color" do.

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自動產生的描述

Q3.The SQL statements and output results of 4a

select sets.name as sets\_name, themes.name as themes\_name

from sets join themes

on sets.theme\_id = themes.id

where sets.year = 2017

Total row: 296

<https://github.com/KennyHsu91/2023_fall_DB/blob/master/hw1/result/4a.csv>

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述

Q4.The SQL statements and output results of 4b

select count(\*) as set\_total\_num, year

from (

    select \*

    from sets

    where 1950<=sets.year and sets.year<=2017

    )

group by year

order by set\_total\_num desc

Total row: 66

<https://github.com/KennyHsu91/2023_fall_DB/blob/master/hw1/result/4b.csv>

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述

Q5.The SQL statements and output results of 4c

with cnt(name, theme\_num) as(

    select themes.name, count(\*)

    from sets, themes

    where sets.theme\_id=themes.id

    group by themes.id

)

select name, theme\_num

from cnt

order by theme\_num desc

limit 1

Total row: 1

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自動產生的描述

一張含有 文字, 螢幕擷取畫面, 陳列, 字型 的圖片

自動產生的描述

Q6.The SQL statements and output results of 4d

select themes.name, avg(sets.num\_parts) as avg\_num\_part

from sets join themes

on sets.theme\_id=themes.id

group by themes.id

order by avg\_num\_part asc

Total row:575

<https://github.com/KennyHsu91/2023_fall_DB/blob/master/hw1/result/4d.csv>

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述

Q7.The SQL statements and output results of 4e

select count(\*) as cnt, cn

from(

select distinct inventory\_parts.part\_num  , colors.name as cn

from inventory\_parts, colors

where inventory\_parts.color\_id=colors.id

order by  inventory\_parts.part\_num

)

group by cn

order by cnt desc

limit 10

Total row:10

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自動產生的描述

Q8.The SQL statements and output results of 4f

with qu(in\_id,qu\_sum,part\_num,colorname) as

(

    select

        inventory\_parts.inventory\_id,

        sum(inventory\_parts.quantity),

        inventory\_parts.part\_num,

        colors.name

    from inventory\_parts, colors

    where inventory\_parts.color\_id = colors.id

    group by

        colors.id,

        inventory\_parts.inventory\_id,

        inventory\_parts.part\_num

),

    t\_q(t\_id,t\_n , cname ,total) as

(

        select

            sets.theme\_id as t\_id,

            themes.name as t\_n,

            qu.colorname as cname,

            sum(qu.qu\_sum) as total

        from qu,inventories,sets,themes

        where

            qu.in\_id=inventories.id and

            inventories.set\_num=sets.set\_num and

            sets.theme\_id = themes.id

        group by sets.theme\_id, qu.colorname, themes.name

        order by themes.name asc

    )

, maxtotal (m\_id,max\_tot)as

(

    select t\_id, max(total) as max\_tot

    from t\_q

    group by t\_id

)

select t\_q.t\_n, t\_q.cname

from t\_q inner join maxtotal on t\_q.t\_id=maxtotal.m\_id and t\_q.total = maxtotal.max\_tot

Total row:568

<https://github.com/KennyHsu91/2023_fall_DB/blob/master/hw1/result/4f.csv>

一張含有 文字, 螢幕擷取畫面, 數字, 字型 的圖片

自動產生的描述