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CREATE DATABASE final_project;

CREATE TABLE Brand (
    Brand_Code INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
    Brand_Name VARCHAR(160)
);

CREATE INDEX IDX_Brand_Name on Brand(Brand_Name);

CREATE TABLE Generic (
    Generic_Code INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
    Generic_Name VARCHAR(160)
);

CREATE INDEX IDX_Generic_Name on Generic(Generic_Name);

CREATE TABLE YearDim (
    Year_Code INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
    Year_Name VARCHAR(160)
);

CREATE TABLE medi_fact (
    Year_Code int,
    Brand_Code int,
    Generic_Code int,
    Claim_Count bigint(20) ,
    Total_Spending Decimal(65,2),
    Beneficiary_Count bigint(20) ,
    Total_Annual_Spending_per_User Decimal(65,2),
    Unit_Count bigint(20),
    Average_Cost_Per_Unit Decimal(65,2),
    Beneficiary_Count_No_LIS bigint(20) ,
    Beneficiary_Count_LIS bigint(20) ,
    PRIMARY KEY(Year_Code, Brand_Code, Generic_Code),
    FOREIGN KEY (Brand_Code) REFERENCES Brand (Brand_Code),
    FOREIGN KEY (Generic_Code) REFERENCES Generic (Generic_Code),
    FOREIGN KEY (Year_Code) REFERENCES YearDim (Year_Code)
);

CREATE INDEX IDX_medifact_year on medi_fact(Year_Code);
CREATE INDEX IDX_medifact_brand on medi_fact(Brand_Code);
CREATE INDEX IDX_medifact_generic on medi_fact(Generic_Code);

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insert into Brand (Brand_Name)
SELECT distinct `Brand Name`
FROM medicare
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insert into Generic (Generic_Name)
SELECT distinct `Generic Name`
FROM medicare
;

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insert into YearDim (Year_Name) values ('2011'),('2012'),('2013'),('2014'),
('2015');

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insert into medi_fact (
    Year_Code,
    Brand_Code,

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Generic_Code,
Claim_Count ,
Total_Spending,
Beneficiary_Count,
Total_Annual_Spending_per_User,
Unit_Count,
Average_Cost_Per_Unit,
Beneficiary_Count_No_LIS,
Beneficiary_Count_LIS
)
select (select year_code from yeardim where Year_Name = '2011'),
      (select Brand_Code from Brand where Brand_Name = t.`Brand Name`),
      (select Generic_Code from Generic where Generic_Name = t.`Generic
Name`),
      `Claim Count, 2011`, `Total Spending, 2011`, `Beneficiary Count, 2011`,
`Total Annual Spending Per User, 2011`,
      `Unit Count, 2011`, `Average Cost Per Unit (Weighted), 2011`,
`Beneficiary Count No LIS, 2011`, `Beneficiary Count LIS, 2011`
from medicare t
union all
select (select year_code from yeardim where Year_Name = '2012'),
      (select Brand_Code from Brand where Brand_Name = t.`Brand Name`),
      (select Generic_Code from Generic where Generic_Name = t.`Generic
Name`),
      `Claim Count, 2012`, `Total Spending, 2012`, `Beneficiary Count, 2012`,
`Total Annual Spending Per User, 2012`,
      `Unit Count, 2012`, `Average Cost Per Unit (Weighted), 2012`,
`Beneficiary Count No LIS, 2012`, `Beneficiary Count LIS, 2012`
from medicare t
union all
select (select year_code from yeardim where Year_Name = '2013'),
      (select Brand_Code from Brand where Brand_Name = t.`Brand Name`),
      (select Generic_Code from Generic where Generic_Name = t.`Generic
Name`),
      `Claim Count, 2013`, `Total Spending, 2013`, `Beneficiary Count, 2013`,
`Total Annual Spending Per User, 2013`,
      `Unit Count, 2013`, `Average Cost Per Unit (Weighted), 2013`,
`Beneficiary Count No LIS, 2013`, `Beneficiary Count LIS, 2013`
from medicare t
union all
select (select year_code from yeardim where Year_Name = '2014'),
      (select Brand_Code from Brand where Brand_Name = t.`Brand Name`),
      (select Generic_Code from Generic where Generic_Name = t.`Generic
Name`),
      `Claim Count, 2014`, `Total Spending, 2014`, `Beneficiary Count, 2014`,
`Total Annual Spending Per User, 2014`,
      `Unit Count, 2014`, `Average Cost Per Unit (Weighted), 2014`,
`Beneficiary Count No LIS, 2014`, `Beneficiary Count LIS, 2014`
from medicare t
union all
select (select year_code from yeardim where Year_Name = '2015'),
      (select Brand_Code from Brand where Brand_Name = t.`Brand Name`),
      (select Generic_Code from Generic where Generic_Name = t.`Generic
Name`),
      `Claim Count, 2015`, `Total Spending, 2015`, `Beneficiary Count, 2015`,
`Total Annual Spending Per User, 2015`,
      `Unit Count, 2015`, `Average Cost Per Unit (Weighted), 2015`,
`Beneficiary Count No LIS, 2015`, `Beneficiary Count LIS, 2015`
from medicare t

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select y.Year_Name, b.Brand_Name, g.Generic_Name, t.*  
from medi_fact t  
inner join brand b  
    on b.Brand_Code = t.Brand_Code  
inner join generic g  
    on g.Generic_Code = t.Generic_Code  
inner join yeardim y  
    on y.Year_Code = t.Year_Code
```