Data Class;

Input ClassID $ Year Age Height Weight;

Datalines;

A1234 2013 8 85 34

A2323 2013 9 81 36

B3423 2013 8 80 31

B5324 2013 9 70 35

C2342 2013 9 80 31

D3242 2013 9 85 30

A1234 2019 14 105 64

A2323 2019 15 101 66

B3423 2019 14 100 61

B5324 2019 15 90 55

C2342 2019 15 112 70

D3242 2019 14 112 70

;

Data Grade;

Input ClassID $ Year Grade $;

Datalines;

A1234 2013 A

A2323 2013 A

B3423 2013 B

B5324 2013 C

C2342 2013 C

D3242 2013 D

A1234 2019 B

A2323 2019 C

B3423 2019 D

B5324 2019 B

C2342 2019 C

D3242 2019 D

;

Proc SQL;

Create Table Class\_Grade As

Select \*

From Class, Grade

;

Quit;

Proc Sort Data = Class\_Grade;

By ClassId Year;

Run;

Proc Print;

Run;

\*xx;

Data Interests;

Input ClassID $ Music Sports Drama Photography;

Datalines;

A1234 1 1 1 0

A2323 1 0 1 .

B3423 1 1 1 0

D3242 . 0 1 1

E4234 1 1 . 1

F5642 1 1 1 0

G6534 0 1 1 .

D4234 1 . 0 1

S3576 1 0 0 1

;

Proc Sql;

Create table Inner\_Join as

Select \*

From Class

Inner Join Interests

On Class.ClassID=Interests.ClassID

;

Quit;

Proc Print;

Run;

Proc Sql;

Select count(distinct(Classid)) from Class;

Select count(distinct(Classid)) from Class where classid in (select classid from interests);

Select count(distinct(Classid)) from Interests;

Quit;

\*xx;

Proc Sql;

Create table Left\_Join as

Select A.\*, B.\*

From Class as A

Left Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

Proc Print;

Run;

\*xx;

Proc Sql;

Create table Left\_Join\_Inference as

Select A.\*, B.Photography

From Class as A

Left Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

\*xx;

/\*Data Interests;

Set Interests;

ClassID=Compress("9"||ClassID);

Run;\*/

Proc Sql;

Create table Left\_Join as

Select A.\*, B.\*

From Class as A

Left Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

Proc Print;

Run;

\*xxx;

Proc Sql;

Create table Right\_Join as

Select A.\*, B.\*

From Class as A

Right Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

Proc Print;

Run;

\*xx;

Proc Sql;

Create table Right\_Join as

Select B.\*, A.Year, Age, Height, Weight

From Class as A

Right Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

Proc Print;

Run;

\*xx;

Proc Sql;

Create table Full\_Join as

Select Coalesce(A.ClassID, B.ClassID), A.Year, A.Age, A.Height, A.Weight,

B.Music, B.Sports, B.Drama, B.Photography

From Class as A

Full Join Interests as B

On A.ClassID=B.ClassID

;

Quit;

Proc Print;

Run;

\*xx;

Data X;

Input ID VarTabA VarTabB;

Datalines;

1 66 77

2 55 66

3 77 55

;

Proc Print;

Data Y;

Input ID Category $ VarTabC VarTabD;

Datalines;

1 A 60 70

1 B 50 60

2 A 50 60

3 C 70 50

;

Proc Print;

Proc Sql;

Create table One\_to\_One as

Select Coalesce(A.ID, B.ID) as ID, VarTabA, VarTabB, VarTabC, VarTabD

From X as A, Y as B

Where A.ID=B.ID

;

Quit;

Proc Print Noobs;

Proc Sql;

Create table One\_to\_Many as

Select Coalesce(A.ID, B.ID) as ID, VarTabA, VarTabB, VarTabC, VarTabD

From X as A Inner Join Y as B

On A.ID=B.ID

;

Quit;

Proc Print Noobs;

\*xx;

Data Z;

Input ID Category $ VarTabE VarTabF;

Datalines;

1 A 10 70

1 B 20 60

2 A 30 40

2 D 40 50

3 C 70 50

;

Proc Print Noobs;

Proc Sql;

Create table Many\_to\_Many as

Select Coalesce(A.ID, B.ID) as ID, VarTabE, VarTabF, VarTabC, VarTabD

From Y as A Inner Join Z as B

On A.ID=B.ID

;

Quit;

Proc Print Noobs;

\*xx;

Data Products;

Input Customer1 $ Customer2 $ Product $12.;

Datalines;

RT0001 RT1101 CreditCard

RT1101 RT0001 CreditCard

RT1401 RT1200 Saving

RT1002 RT1405 Current

RQ1300 RO1400 Mortgage

RO1400 RQ1300 Mortgage

RX4599 RM1001 CurrentExtra

RM1001 RX4599 Current

;

Proc Print;

Run;

Proc Sql;

Create Table Duplicate\_Products as

Select A.\*

From Products as A

Inner Join Products as B

On A.Customer1=B.Customer2

And A.Customer2=B.Customer1

And A.Product=B.Product

;

Quit;

Proc Print;

Run;

\*xx;

Proc Sort Data = Products;

By Customer1 Customer2 Product;

Run;

Data Products\_Alt (Rename =

(Customer1=Customer2 Customer2=Customer1));

Set Products;

Run;

Proc Sort Data = Products\_Alt;

By Customer1 Customer2 Product;

Run;

/\*Proc Sort Data = Products Out = Products\_Alt (Rename =

(Customer1=Customer2 Customer2=Customer1));

By Customer1 Customer2;

Run;\*/

Data Duplicate\_Products\_Alt;

Merge Products (in=a) Products\_Alt (in=b);

By Customer1 Customer2 Product;

If a and b;

Run;

Proc Print;

Run;

\*xx;

Proc Sql;

Select Avg(Age) as Avg\_Age, Nmiss(Age) as Missing\_Age, Std(Age) as Std\_Age

From Class

;

Quit;

\*xx;

Proc SQL;

Select Avg(Age) as Avg\_Age, Nmiss(Age) as Missing\_Age,

Std(Age) as Std\_Age

From Class

Group by Year

;

Quit;

\*xx;

Proc SQL;

Create table GT\_Avg\_2019 as

Select \*, Avg(Height) as Avg\_Height

From Class

Where Weight GT 30

Group by Year

Having Height GT Avg\_Height

;

Quit;

Proc Print;

Run;

\*xx;

Proc Sql;

Select \* From Dictionary.Tables;

Select \* From Dictionary.Columns

Where Name = ‘Class’;

Quit;