

THOMAS PATTARA

SAS homework 5

09.28.17

I. Using appropriate SAS DATE functions and maybe PROC FREQ, find a frequency table containing the number of Sundays (1), Mondays (2), ..., Saturdays (7) in the year 2017. You can enter your data/dates in any format you want. **Try to be as creative as possible to enter the 365 days.**

```
data dates;  
do date = "1Jan2017"d to "31Dec2017"d;  
day = weekday(date);  
output;  
end;  
run;  
title "frequency of the days in the weeks in 2017";  
proc freq data=dates;  
tables day;  
run;
```

frequency of the days in the weeks in 2017

The FREQ Procedure

day	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	53	14.52	53	14.52
2	52	14.25	105	28.77
3	52	14.25	157	43.01
4	52	14.25	209	57.26
5	52	14.25	261	71.51
6	52	14.25	313	85.75
7	52	14.25	365	100.00

II. From the discussions for Chapter 1 & 2, create another data set called **OURDATA2**. This new dataset shall contain the following five variables.

FRSTNAME: First name of a student

LASTNAME: Last name of a student

VVNAME1: An example for the first valid variable name from the discussion for Chapter 1 & 2.

VVNAME2: The second valid variable name from the discussion for Chapter 1 & 2.

InVVNAME: The invalid variable name from the discussion for Chapter 1 & 2.

I think it is easier to create this data (containing only the five variables above) in excel and then import to SAS, but you can proceed the way you like.

Problems:

a) Use PROC PRINT to print the new data OURDATA2. Use "OURDATA2 Data " as a title.

```
data ourdata2;
```

```
LENGTH FRSTNAME $25;
```

```
LENGTH LASTNAME $25;
```

```
LENGTH MAJOR $45;
```

```
LENGTH VVNAME1 $25;
```

```
LENGTH VVNAME2 $25;
```

```
LENGTH InVVNAME $25;
```

```
infile datalines delimiter='';
```

```
input FRSTNAME $ LASTNAME $ MAJOR $ VVNAME1 $ VVNAME2 $  
InVVNAME $;
```

```
datalines;
```

```
Nathan, Remmich, Mathematics, This_is_a_valid_name, _this_is_2,  
1_not_valid
```

```
Thomas, Pattara, Mathematics, Nvidia, Thomas_Pattara, 4%3-- 1
```

Walter, Citterman, Mathematics, Off_Topic, AlwaysOpen54, Rooster Teeth Shows

Ali, Lacey, Mathematics, TimeOfClasses, Classes_to_take, 5-classes

April, Zhang, Accounting, AprilZhang, April_Zhang, April Zhang

Jonathan, Sax, Mathematics, X12Y34Z56, This_is_Random, %is-bad

Derek, Johanson, Mathematics, Meters_per_Second, Jackrabbits, 50pages

Elizabeth, Rust, Mathematics, ValidVariable, Ice_Cream, Ice-cream

Nathan, Thirsten, Mathematics, SASProgram1, _Ilikeprogramming, Go-Jacks

Taylor, Deutsch, Mathematics, Miles_per_Hour, MilesPerHour, miles-per-hour

Alex, Wieseler, Mathematics, MiamiDolphins, are_the_best, NFL-team!

Jonathan,Hedman,Computer Science, _Jonathan_Hedman,
Number_of_Classes, 12_People

Alexander, Wade, Mathematics, Blue_car, Feet_Per_Second, 92blocks

Audrey, Bunge, Mathematics, Newtons, Unit_Of_Measurement, % Yield

Riley, Haug, Mathematics, Riley_Haug2, GoDuke2, S-D-S-U

Allison, Bodvig, Mathematics, total_cost, itemCost, total%

Allison, Bodvig, Computer Science, total_cost, itemCost, total%

Jake, Larson, Mathematics, jake_larson, CarModel, % Of Injury

Hannah, Huss, Mathematics, total_revenue, August29, %total

Jacie, McDonald, Mathematics, FirstName, DATE, First Name

Zachary, Shroeder, Mathematics, Zachary_Schroeder21, GolfClub, Track & Field

Josh, Buttke, Mathematics, PricePerSquareFoot, Price_Per_Square_Foot, Price per square foot

Paige, Hinton, Mathematics, SAS_Master, _Hello_, SAS Amateur

Shea, Olson, Mathematics, CAR_PART_NUMBER, PricePerPound,
37highway

Timothy, Slavik, Mathematics, Weight, Length, Weight in pounds

Drue, Miller, Mathematics, Gender, Drue_Miller, 79elephant

Kory, Heier, Mathematics, _college, meerkat, Chapters 1 & 2

Amanda, Peterson, Mathematics, Parts, Cost_per_Pound, 8_is_enough

Wesley, Bowen, Mathematics, _SouthDakota, South_Dakota, Hello World

Courtney, Anderson, Athletic Training, Height_in_centimeters, LastName,
Price per Pound

Samuel, Ivanecky, Mathematics, UniversityName, _FavoriteColor, -
favoriteSong

Samuel, Ivanecky, Computer Science, UniversityName, _FavoriteColor, -
favoriteSong

Lincoln, Stoebner, Mathematics, Mod_Req, Height_MM, \$MoneyMayweather

;

title "OURDATA2 Data";

proc sort data=ourdata2;

by FRSTNAME;

run;

proc print data=ourdata2;

run;

OURDATA2 Data

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
1	Alex	Wieseler	Mathematics	MiamiDolphins	are_the_best	NFL-team!
2	Alexander	Wade	Mathematics	Blue_car	Feet_Per_Second	92blocks
3	Ali	Lacey	Mathematics	TimeOfClasses	Classes_to_take	5-classes
4	Allison	Bodvig	Mathematics	total_cost	itemCost	total%
5	Allison	Bodvig	Computer Science	total_cost	itemCost	total%
6	Amanda	Peterson	Mathematics	Parts	Cost_per_Pound	8_is_enough
7	April	Zhang	Accounting	AprilZhang	April_Zhang	April Zhang
8	Audrey	Bunge	Mathematics	Newtons	Unit_Of_Measurement	% Yield
9	Courtney	Anderson	Athletic Training	Height_in_centimeters	LastName	Price per Pound
10	Derek	Johanson	Mathematics	Meters_per_Second	Jackrabbits	50pages
11	Drue	Miller	Mathematics	Gender	Drue_Miller	79elephant
12	Elizabeth	Rust	Mathematics	ValidVariable	Ice_Cream	Ice-cream
13	Hannah	Huss	Mathematics	total_revenue	August29	%total
14	Jacie	McDonald	Mathematics	FirstName	DATE	First Name
15	Jake	Larson	Mathema	jake_larson	CarModel	% Of Injury

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
			tics			
16	Jonathan	Sax	Mathematics	X12Y34Z56	This_is_Random	%is-bad
17	Jonathan	Hedman	Computer Science	_Jonathan_Hedman	Number_of_Classes	12_People
18	Josh	Buttke	Mathematics	PricePerSquareFoot	Price_Per_Square_Foot	Price per square foot
19	Kory	Heier	Mathematics	_college	meerkat	Chapters 1 & 2
20	Lincoln	Stoebner	Mathematics	Mod_Req	Height_MM	\$MoneyMayweather
21	Nathan	Remmich	Mathematics	This_is_a_valid_name	_this_is_2	1_not_valid
22	Nathan	Thirsten	Mathematics	SASProgram1	_Ilikeprogramming	Go-Jacks
23	Paige	Hinton	Mathematics	SAS_Master	_Hello_	SAS Amateur
24	Riley	Haug	Mathematics	Riley_Haug2	GoDuke2	S-D-S-U
25	Samuel	Ivanecky	Mathematics	UniversityName	_FavoriteColor	-favoriteSong
26	Samuel	Ivanecky	Computer Science	UniversityName	_FavoriteColor	-favoriteSong
27	Shea	Olson	Mathematics	CAR_PART_NUMBER	PricePerPound	37highway
28	Taylor	Deutsch	Mathematics	Miles_per_Hour	MilesPerHour	miles-per-hour
29	Thomas	Pattara	Mathematics	Nvidia	Thomas_Pattara	4%3-- 1

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
30	Timothy	Slavik	Mathematics	Weight	Length	Weight in pounds
31	Walter	Citterman	Mathematics	Off_Topic	AlwaysOpen54	Rooster Teeth Shows
32	Wesley	Bowen	Mathematics	_SouthDakota	South_Dakota	Hello World
33	Zachary	Shroeder	Mathematics	Zachary_Schroeder21	GolfClub	Track & Field

b) Can we merge the SELFINTRO and OURDATA2 data sets using FRSTNAME alone? Why? How about LASTNAME alone?

Yes we can merge the two data sets because they are sorted with the same table, FRSTNAME. It is possible by using the syntax for merge, which is:

```
data ourdata3;
```

```
merge selfintro ourdata2;
```

```
by FRSTNAME;
```

```
run;
```

Yes we can merge with LASTNAME given that both table are sorted by LASTNAME before merging. Otherwise we cannot merge the two data sets by LASTNAME.

c) Merge the SELFINTRO and OURDATA2 data and call it **OURDATA3**. Note: you have to create two temporary data sets in SAS and merge them using the MERGE option.

```
data ourdata3;
```

```
merge selfintro ourdata2;
```

by FRSTNAME;

run;

proc print data=ourdata3;

title 'Merging Selfintro and Ourdata2 by FRSTNAME';

run;

Merging Selfintro and Ourdata2 by FRSTNAME

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
1	Alex	Wieseler	Mathematics	MiamiDolphins	are_the_best	NFL-team!
2	Alexander	Wade	Mathematics	Blue_car	Feet_Per_Second	92blocks
3	Ali	Lacey	Mathematics	TimeOfClasses	Classes_to_take	5-classes
4	Allison	Bodvig	Mathematics	total_cost	itemCost	total%
5	Allison	Bodvig	Computer Science	total_cost	itemCost	total%
6	Amanda	Peterson	Mathematics	Parts	Cost_per_Pound	8_is_enough
7	April	Zhang	Accounting	AprilZhang	April_Zhang	April Zhang
8	Audrey	Bunge	Mathematics	Newtons	Unit_Of_Measurement	% Yield
9	Courtney	Anderson	Athletic Training	Height_in_centimeters	LastName	Price per Pound
10	Derek	Johanson	Mathematics	Meters_per_Second	Jackrabbits	50pages

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
		n	tics	nd		
11	Drue	Miller	Mathematics	Gender	Drue_Miller	79elephant
12	Elizabeth	Rust	Mathematics	ValidVariable	Ice_Cream	Ice-cream
13	Hannah	Huss	Mathematics	total_revenue	August29	%total
14	Jacie	McDonald	Mathematics	FirstName	DATE	First Name
15	Jake	Larson	Mathematics	jake_larson	CarModel	% Of Injury
16	Jonathan	Sax	Mathematics	X12Y34Z56	This_is_Random	%is-bad
17	Jonathan	Hedman	Computer Science	_Jonathan_Hedman	Number_of_Classes	12_People
18	Josh	Buttke	Mathematics	PricePerSquareFoot	Price_Per_Square_Foot	Price per square foot
19	Kory	Heier	Mathematics	_college	meerkat	Chapters 1 & 2
20	Lincoln	Stoebner	Mathematics	Mod_Req	Height_MM	\$MoneyMayweather
21	Nathan	Remmich	Mathematics	This_is_a_valid_name	_this_is_2	1_not_valid
22	Nathan	Thirsten	Mathematics	SASProgram1	_Ilikeprogramming	Go-Jacks
23	Nicole	Kneip	Mathematics			
24	Paige	Hinton	Mathematics	SAS_Master	_Hello_	SAS Amateur

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
25	Riley	Haug	Mathematics	Riley_Haug2	GoDuke2	S-D-S-U
26	Samuel	Ivanecky	Mathematics	UniversityName	_FavoriteColor	-favoriteSong
27	Samuel	Ivanecky	Computer Science	UniversityName	_FavoriteColor	-favoriteSong
28	Shea	Olson	Mathematics	CAR_PART_NUMBER	PricePerPound	37highway
29	Taylor	Deutsch	Mathematics	Miles_per_Hour	MilesPerHour	miles-per-hour
30	Thomas	Pattara	Mathematics	Nvidia	Thomas_Pattara	4%3-- 1
31	Timothy	Slavik	Mathematics	Weight	Length	Weight in pounds
32	Walter	Citterman	Mathematics	Off_Topic	AlwaysOpen54	Rooster Teeth Shows
33	Wesley	Bowen	Mathematics	_SouthDakota	South_Dakota	Hello World
34	Zachary	Shroeder	Mathematics	Zachary_Schroeder21	GolfClub	Track & Field

d) Sort OURDATA3 by LASTNAME and MAJOR. Print it using PROC PRINT.

```
title "OURDATA3 Data sorted by LASTNAME and MAJOR";
```

```
proc sort data=ourdata3;
```

```
by LASTNAME MAJOR;
```

```
run;
```

```
proc print data=ourdata3;
```

```
run;
```

OURDATA3 Data sorted by LASTNAME and MAJOR

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
1	Courtney	Anderson	Athletic Training	Height_in_centimeters	LastName	Price per Pound
2	Allison	Bodvig	Computer Science	total_cost	itemCost	total%
3	Allison	Bodvig	Mathematics	total_cost	itemCost	total%
4	Wesley	Bowen	Mathematics	_SouthDakota	South_Dakota	Hello World
5	Audrey	Bunge	Mathematics	Newtons	Unit_Of_Measurement	% Yield
6	Josh	Buttke	Mathematics	PricePerSquareFoot	Price_Per_Square_Foot	Price per square foot
7	Walter	Citterman	Mathematics	Off_Topic	AlwaysOpen54	Rooster Teeth Shows
8	Taylor	Deutsch	Mathematics	Miles_per_Hour	MilesPerHour	miles-per-hour

Ob s	FRSTNA ME	LASTNA ME	MAJOR	VVNAME1	VVNAME2	InVVNAME
9	Riley	Haug	Mathema tics	Riley_Haug2	GoDuke2	S-D-S-U
10	Jonathan	Hedman	Computer Science	_Jonathan_Hedm an	Number_of_Class es	12_People
11	Kory	Heier	Mathema tics	_college	meerkat	Chapters 1 & 2
12	Paige	Hinton	Mathema tics	SAS_Master	_Hello_	SAS Amateur
13	Hannah	Huss	Mathema tics	total_revenue	August29	%total
14	Samuel	Ivanecky	Computer Science	UniversityName	_FavoriteColor	-favoriteSong
15	Samuel	Ivanecky	Mathema tics	UniversityName	_FavoriteColor	-favoriteSong
16	Derek	Johanso n	Mathema tics	Meters_per_Seco nd	Jackrabbits	50pages
17	Nicole	Kneip	Mathema tics			
18	Ali	Lacey	Mathema tics	TimeOfClasses	Classes_to_take	5-classes
19	Jake	Larson	Mathema tics	jake_larson	CarModel	% Of Injury
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21	Drue	Miller	Mathema tics	Gender	Drue_Miller	79elephant
22	Shea	Olson	Mathema tics	CAR_PART_NU MBER	PricePerPound	37highway
23	Thomas	Pattara	Mathema tics	Nvidia	Thomas_Pattara	4%3-- 1

Obs	FRSTNAME	LASTNAME	MAJOR	VVNAME1	VVNAME2	InVVNAME
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25	Nathan	Remmich	Mathematics	This_is_a_valid_name	_this_is_2	1_not_valid
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32	Alexander	Wade	Mathematics	Blue_car	Feet_Per_Second	92blocks
33	Alex	Wieseler	Mathematics	MiamiDolphins	are_the_best	NFL-team!
34	April	Zhang	Accounting	AprilZhang	April_Zhang	April Zhang