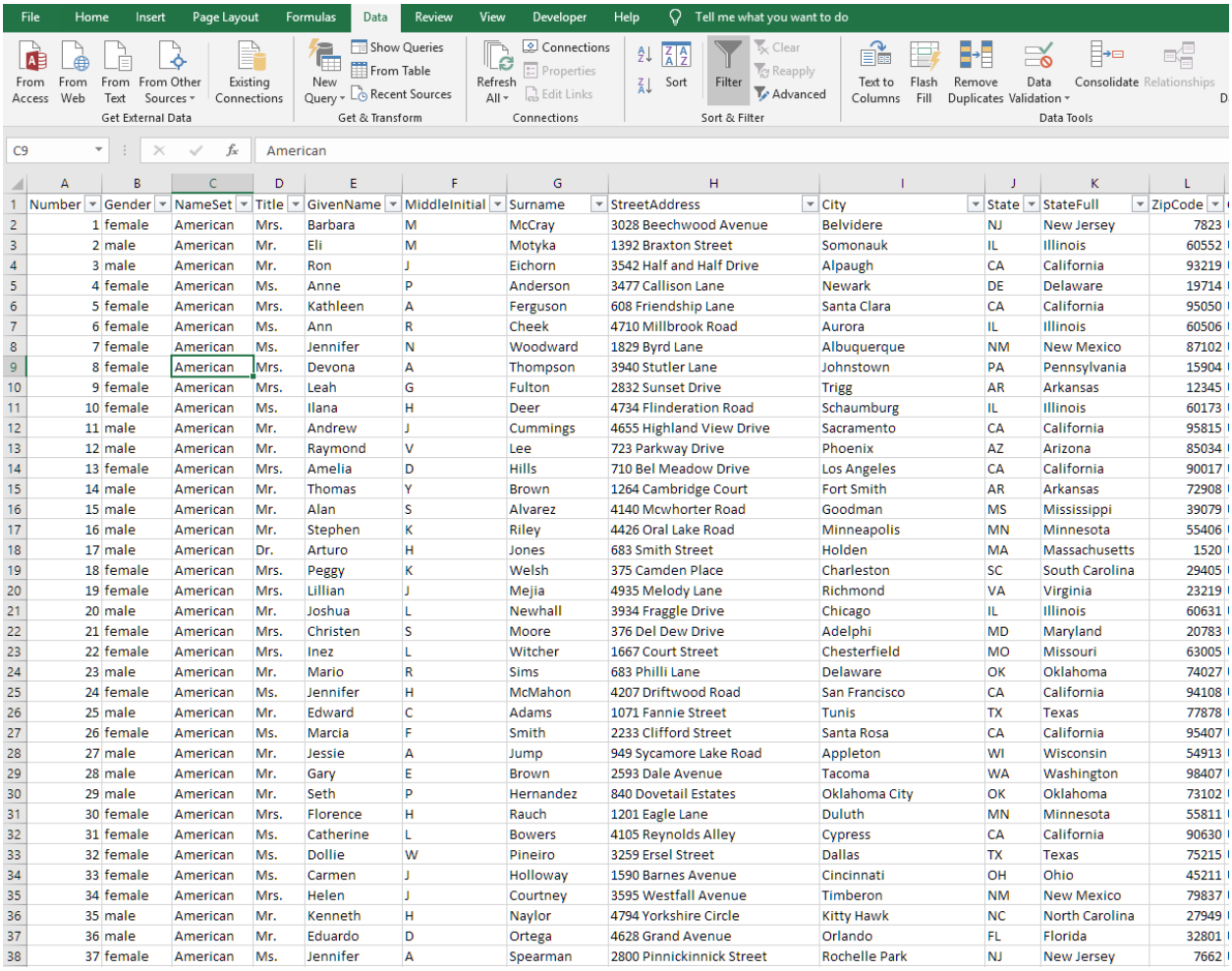
Pivot Tables without Pivot Tables.

Pivot Tables are great, no doubt about that, but there is one specific thing that can be frustrating when using and reusing them. *Pivot tables automatically remove items that result in zero when filtered*. So a data set with 50 total entries will reduce to 40 rows if 10 of the items in the list would be zero given the filters. There is a way to work around this to maintain your structure.

What could you use this trick to accomplish? The ideal use is leveraging standard lists as opposed to the dynamic lists pivot tables use, this way you issue a standard report where everything is in the same place week-to-week. These formulas also automatically update, instead of the manual refresh that pivot tables need, and they're simpler than =GETPIVOTDATA. Using this method, you get many of the pivot tables advantages without losing consistent structure in the data you want to present.

Here is our dataset:



	A	B	C	D	E	F	G	H	I	J	K	L
1	Number	Gender	NameSet	Title	GivenName	MiddleInitial	Surname	StreetAddress	City	State	StateFull	ZipCode
2	1	female	American	Mrs.	Barbara	M	McCray	3028 Beechwood Avenue	Belvidere	NJ	New Jersey	7823
3	2	male	American	Mr.	Eli	M	Motyka	1392 Braxton Street	Somonauk	IL	Illinois	60552
4	3	male	American	Mr.	Ron	J	Eichorn	3542 Half and Half Drive	Alpaugh	CA	California	93219
5	4	female	American	Ms.	Anne	P	Anderson	3477 Callison Lane	Newark	DE	Delaware	19714
6	5	female	American	Mrs.	Kathleen	A	Ferguson	608 Friendship Lane	Santa Clara	CA	California	95050
7	6	female	American	Ms.	Ann	R	Cheek	4710 Millbrook Road	Aurora	IL	Illinois	60506
8	7	female	American	Ms.	Jennifer	N	Woodward	1829 Byrd Lane	Albuquerque	NM	New Mexico	87102
9	8	female	American	Mrs.	Devona	A	Thompson	3940 Stutler Lane	Johnstown	PA	Pennsylvania	15904
10	9	female	American	Mrs.	Leah	G	Fulton	2832 Sunset Drive	Trigg	AR	Arkansas	12345
11	10	female	American	Ms.	Ilana	H	Deer	4734 Flinderation Road	Schaumburg	IL	Illinois	60173
12	11	male	American	Mr.	Andrew	J	Cummings	4655 Highland View Drive	Sacramento	CA	California	95815
13	12	male	American	Mr.	Raymond	V	Lee	723 Parkway Drive	Phoenix	AZ	Arizona	85034
14	13	female	American	Mrs.	Amelia	D	Hills	710 Bel Meadow Drive	Los Angeles	CA	California	90017
15	14	male	American	Mr.	Thomas	Y	Brown	1264 Cambridge Court	Fort Smith	AR	Arkansas	72908
16	15	male	American	Mr.	Alan	S	Alvarez	4140 Mcwhorter Road	Goodman	MS	Mississippi	39079
17	16	male	American	Mr.	Stephen	K	Riley	4426 Oral Lake Road	Minneapolis	MN	Minnesota	55406
18	17	male	American	Dr.	Arturo	H	Jones	683 Smith Street	Holden	MA	Massachusetts	1520
19	18	female	American	Mrs.	Peggy	K	Welsh	375 Camden Place	Charleston	SC	South Carolina	29405
20	19	female	American	Mrs.	Lillian	J	Mejia	4935 Melody Lane	Richmond	VA	Virginia	23219
21	20	male	American	Mr.	Joshua	L	Newhall	3934 Fraggle Drive	Chicago	IL	Illinois	60631
22	21	female	American	Mrs.	Christen	S	Moore	376 Del Dew Drive	Adelphi	MD	Maryland	20783
23	22	female	American	Mrs.	Inez	L	Witcher	1667 Court Street	Chesterfield	MO	Missouri	63005
24	23	male	American	Mr.	Mario	R	Sims	683 Philli Lane	Delaware	OK	Oklahoma	74027
25	24	female	American	Ms.	Jennifer	H	McMahon	4207 Driftwood Road	San Francisco	CA	California	94108
26	25	male	American	Mr.	Edward	C	Adams	1071 Fannie Street	Tunis	TX	Texas	77878
27	26	female	American	Ms.	Marcia	F	Smith	2233 Clifford Street	Santa Rosa	CA	California	95407
28	27	male	American	Mr.	Jessie	A	Jump	949 Sycamore Lake Road	Appleton	WI	Wisconsin	54913
29	28	male	American	Mr.	Gary	E	Brown	2593 Dale Avenue	Tacoma	WA	Washington	98407
30	29	male	American	Mr.	Seth	P	Hernandez	840 Dovetail Estates	Oklahoma City	OK	Oklahoma	73102
31	30	female	American	Mrs.	Florence	H	Rauch	1201 Eagle Lane	Duluth	MN	Minnesota	55811
32	31	female	American	Ms.	Catherine	L	Bowers	4105 Reynolds Alley	Cypress	CA	California	90630
33	32	female	American	Ms.	Dollie	W	Pineiro	3259 Ersel Street	Dallas	TX	Texas	75215
34	33	female	American	Ms.	Carmen	J	Holloway	1590 Barnes Avenue	Cincinnati	OH	Ohio	45211
35	34	female	American	Mrs.	Helen	J	Courtney	3595 Westfall Avenue	Timberon	NM	New Mexico	79837
36	35	male	American	Mr.	Kenneth	H	Naylor	4794 Yorkshire Circle	Kitty Hawk	NC	North Carolina	27949
37	36	male	American	Mr.	Eduardo	D	Ortega	4628 Grand Avenue	Orlando	FL	Florida	32801
38	37	female	American	Ms.	Jennifer	A	Spearman	2800 Pinnickinnick Street	Rochelle Park	NJ	New Jersey	7662

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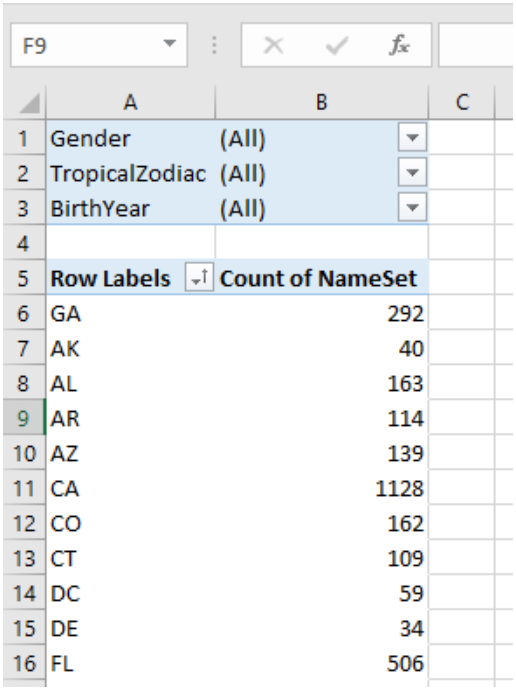


	A	B	C
1	Gender	(All)	
2	TropicalZodiac	(All)	
3	BirthYear	(All)	
4			
5	**Row Labels**	**Count of NameSet**	
6	GA	292	
7	AK	40	
8	AL	163	
9	AR	114	
10	AZ	139	
11	CA	1128	
12	CO	162	
13	CT	109	
14	DC	59	
15	DE	34	
16	FL	506	

To spell out the issue, we're going to look at the number of people by state that fit different criteria including year of birth, tropical zodiac sign, and gender. If we make this into a pivot table, it looks like this.

The table has 51 rows of data (50 states plus Washington, DC), and the total comes out to 10,000, which is the number of people in the data set.

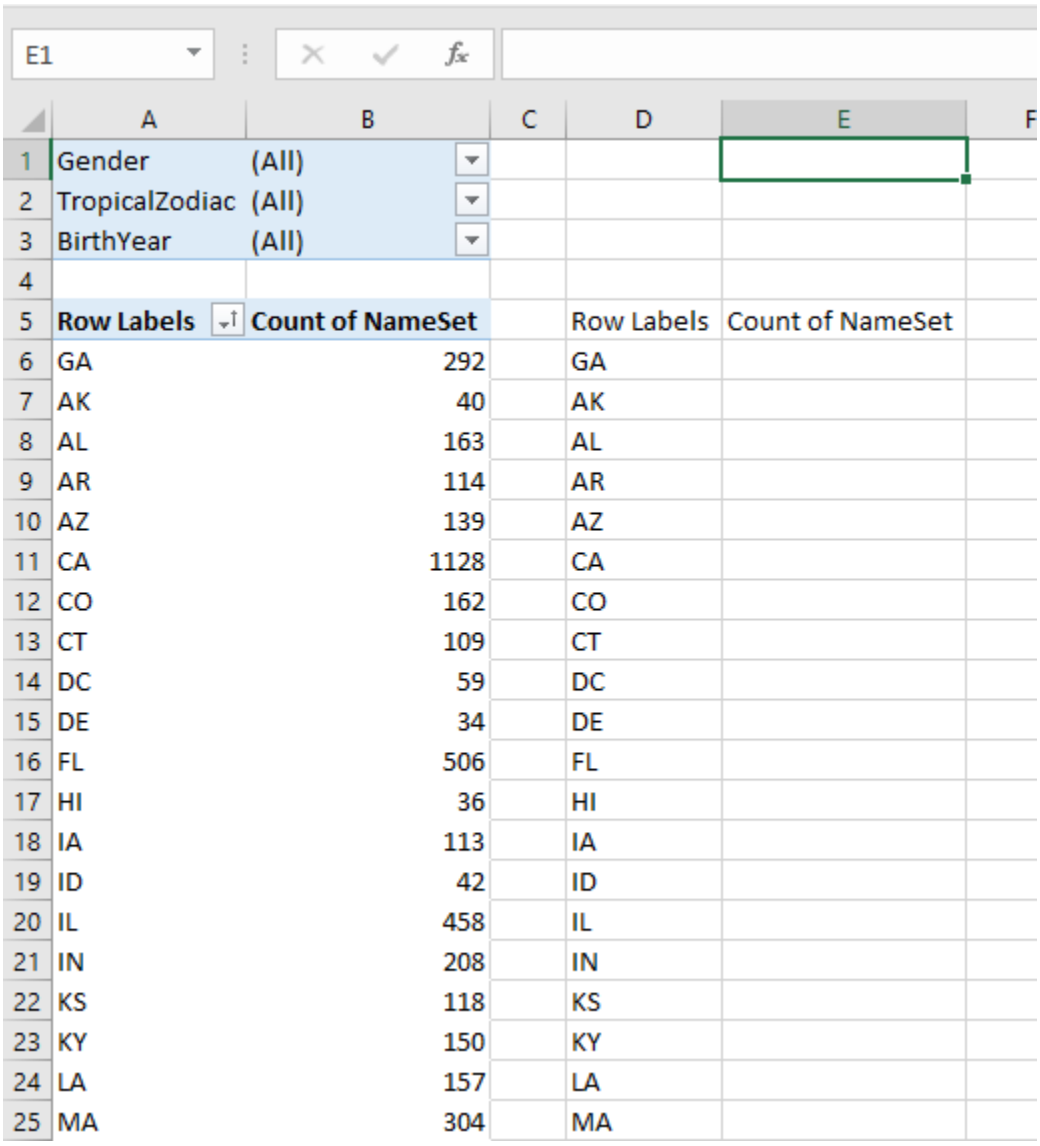
What would happen if we filter the birth year to 2000? The states without anyone in the data set born in 2000 will disappear so our original table with 51 rows is reduced to 16. That's totally fine for analysis and building charts, but it doesn't help up with a standard listing. Imagine if you didn't know Washington DC was included in the list, would you assume it was zero or that it wasn't included? When the data in the list changes, it's impossible to know what is included. With 50 states, it's not hard to look through them but if the list was made up of cities there are thousands of possibilities!

	A	B	C
1	Gender	(All)	
2	TropicalZodiac	(All)	
3	BirthYear	2000	
4			
5	**Row Labels**	**Count of NameSet**	
6	CA	4	
7	CO	1	
8	CT	1	
9	FL	1	
10	IA	1	
11	KY	1	
12	LA	1	
13	MN	2	
14	NJ	1	
15	NY	1	
16	OH	2	
17	OR	1	
18	PA	3	
19	RI	1	
20	SC	2	
21	WI	1	
22	**Grand Total**	**24**	
23			

Because of this potential issue, there is a way to standardize the list but still retain the easy filtering that pivot tables offer.

Pivot Tables without Pivot Tables.

The first step will be changing all of the filters to (All) and copying and pasting values over the pivot table. To do this, simply copy the entirety of the pivot table and paste values right beside it. Then highlight the numbers under "Count of Name Set" and delete them. Your sheet should look like this:



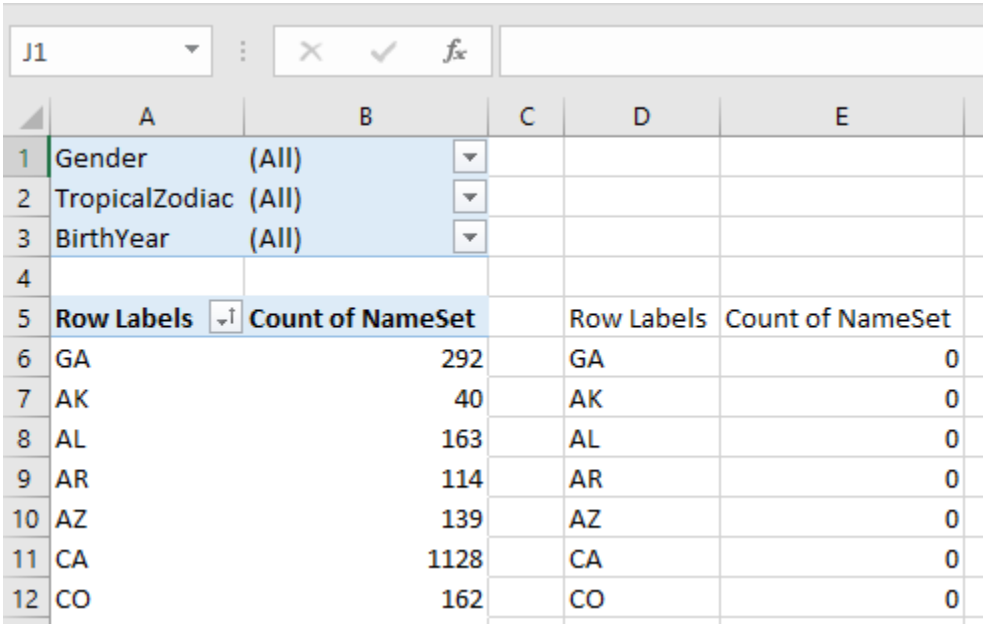
	A	B	C	D	E	F
1	Gender	(All)				
2	TropicalZodiac	(All)				
3	BirthYear	(All)				
4						
5	**Row Labels**	**Count of NameSet**		Row Labels	Count of NameSet	
6	GA	292		GA		
7	AK	40		AK		
8	AL	163		AL		
9	AR	114		AR		
10	AZ	139		AZ		
11	CA	1128		CA		
12	CO	162		CO		
13	CT	109		CT		
14	DC	59		DC		
15	DE	34		DE		
16	FL	506		FL		
17	HI	36		HI		
18	IA	113		IA		
19	ID	42		ID		
20	IL	458		IL		
21	IN	208		IN		
22	KS	118		KS		
23	KY	150		KY		
24	LA	157		LA		
25	MA	304		MA		

From here, we can enter a simple COUNTIFS formula in cell E6 and base it off the filters. The formula we will use is:

=COUNTIFS(Names[Gender],B1,Names[TropicalZodiac],B2,Names[BirthYear],B3,Names[State],D6)

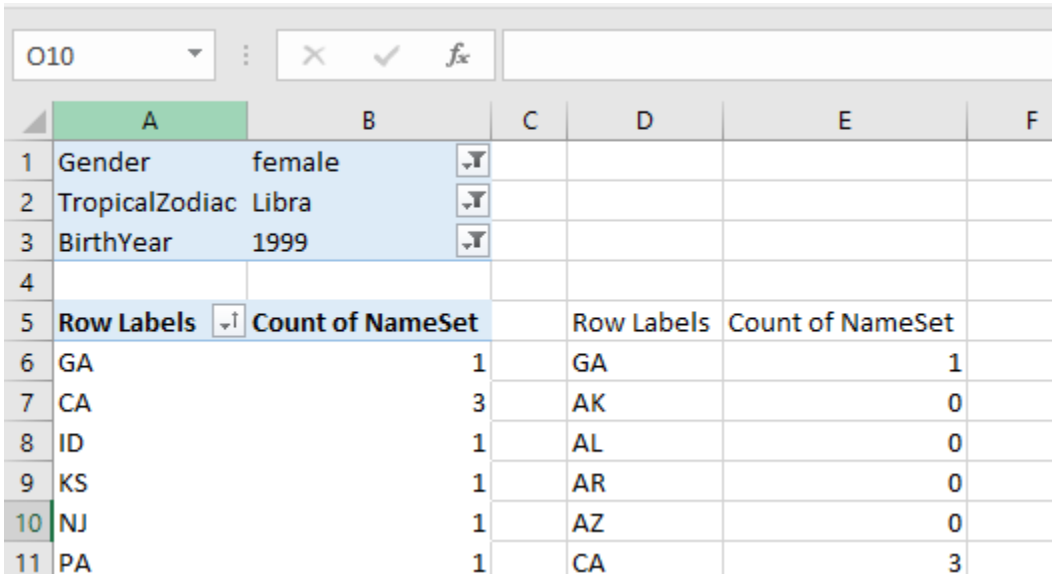
Pivot Tables without Pivot Tables.

But wait? Shouldn't the two be the same now?



	A	B	C	D	E
1	Gender	(All)			
2	TropicalZodiac	(All)			
3	BirthYear	(All)			
4					
5	**Row Labels**	**Count of NameSet**		Row Labels	Count of NameSet
6	GA	292		GA	0
7	AK	40		AK	0
8	AL	163		AL	0
9	AR	114		AR	0
10	AZ	139		AZ	0
11	CA	1128		CA	0
12	CO	162		CO	0

Not quite, because there is no "(All)" in the data set but it will work if we add criteria to each field. You can see that the pivot table adjusted while our manually added table kept displaying items with zeroes.



	A	B	C	D	E	F
1	Gender	female				
2	TropicalZodiac	Libra				
3	BirthYear	1999				
4						
5	**Row Labels**	**Count of NameSet**		Row Labels	Count of NameSet	
6	GA	1		GA	1	
7	CA	3		AK	0	
8	ID	1		AL	0	
9	KS	1		AR	0	
10	NJ	1		AZ	0	
11	PA	1		CA	3	

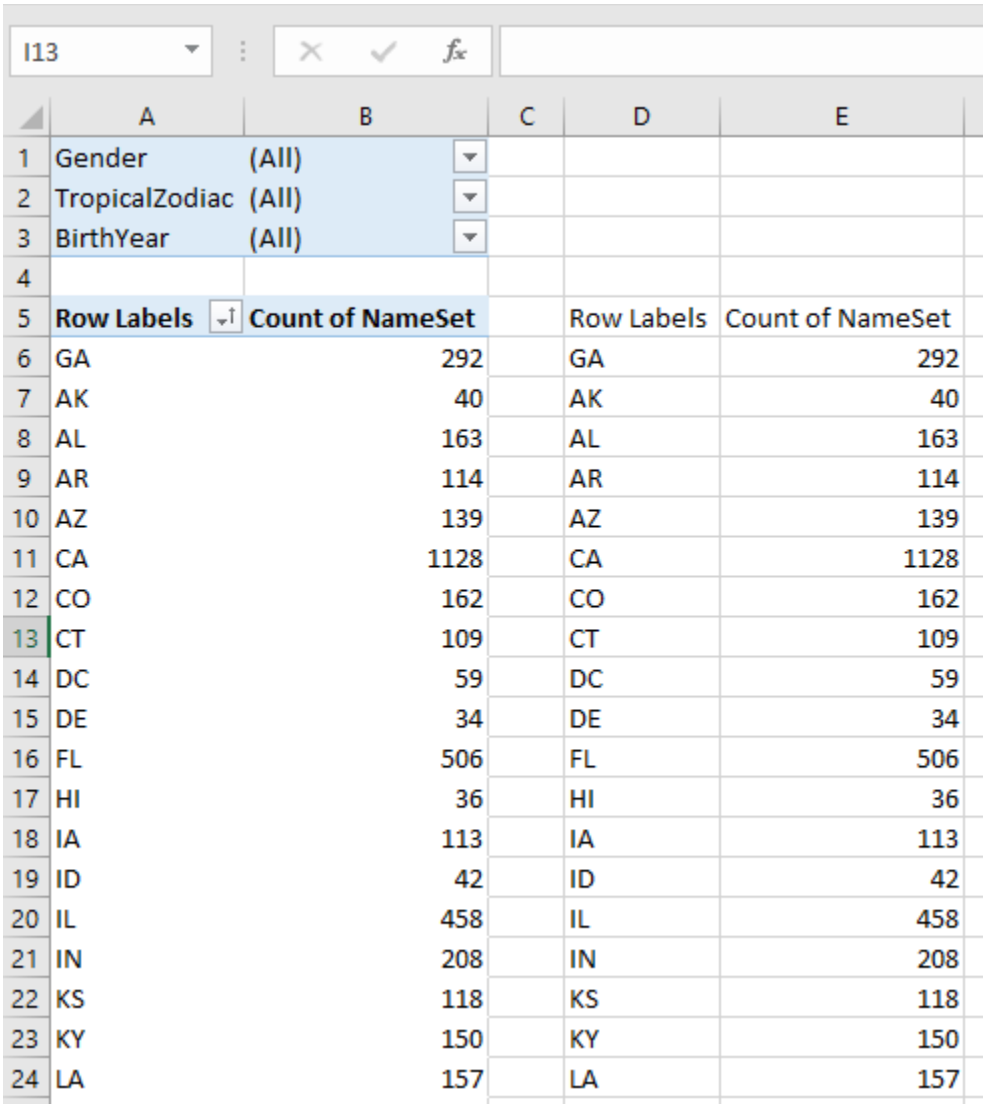
But as nice as that is, wouldn't it be great if the (All)'s worked? It would, and we can make it happen!

Pivot Tables without Pivot Tables.

We will use the =IF function to tell Excel that if “(All)” is in one of the selection sheets then we’ll take everything in that column. The resulting formula looks like this:

=COUNTIFS(Names[Gender],IF(B1="(All)","*",B1),Names[TropicalZodiac],IF(B2="(All)","*",B2),Names[BirthYear],IF(B3="(All)","*",B3),Names[State],D6)

You can see we have added if statements to check whether (All) is in the criteria field and if it is then search “*”, “*” is a wildcard that pulls everything, which fits our needs perfectly.



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	A	B	C	D	E
1	Gender	(All)			
2	TropicalZodiac	(All)			
3	BirthYear	(All)			
4					
5	**Row Labels**	**Count of NameSet**		Row Labels	Count of NameSet
6	GA	292		GA	292
7	AK	40		AK	40
8	AL	163		AL	163
9	AR	114		AR	114
10	AZ	139		AZ	139
11	CA	1128		CA	1128
12	CO	162		CO	162
13	CT	109		CT	109
14	DC	59		DC	59
15	DE	34		DE	34
16	FL	506		FL	506
17	HI	36		HI	36
18	IA	113		IA	113
19	ID	42		ID	42
20	IL	458		IL	458
21	IN	208		IN	208
22	KS	118		KS	118
23	KY	150		KY	150
24	LA	157		LA	157