



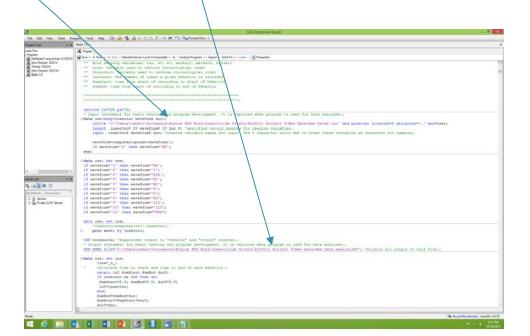
Congratulations

- You have a clean data file.
- Open Ebert 1.0.
- Change the infile statement to read the data in AphidData IaT.csv.
- Change the ODS HTML file= statement to give the program a place to dump the output.
- See next slide for a visual.
- Run the program.



Change infile and ODS filenames

Here and here









Results

- Open the results file in Word. Allow Word some time to process the file. Something like 2 minutes should be good in most cases.
- Select all (Control a) and copy (Control c).
- Go to Excel, and Paste special, then choose "text" from the menu choices.
- This strips off formatting and avoids problems with merged cells in Excel.



Condensing Output

- SAS produces many pages of output. You want a simple table with the results.
- Each Glimmix statement produces results that have all the same format.
- Use this feature to your advantage.

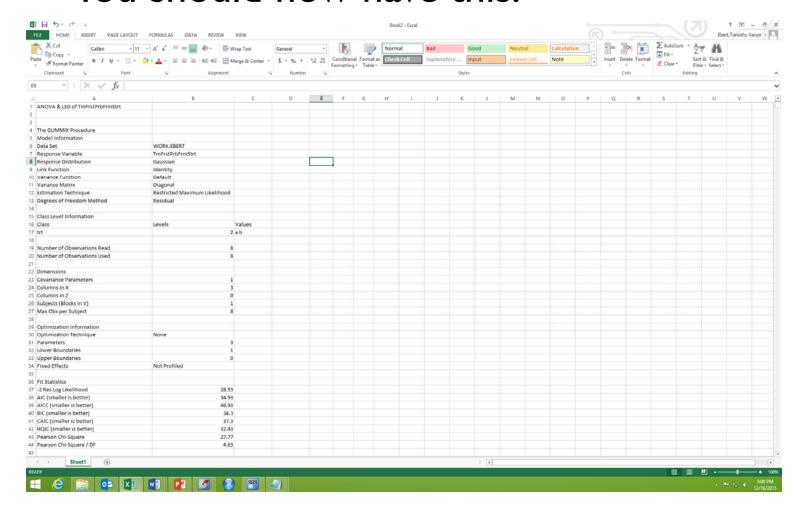






The Output in Excel

You should now have this.





Extracting the useful bits

 Copy the contents in cell E47. This is important. It process only works this way, but I don't know why.
Copy this

| Company | Comp







Extracting

Type this into cell I48

=IF(\$E47="Pr > F",E48,"")

- Make sure that the Pr > F is entered into the formula using the paste command.
- Fill right to cell L48
- In these cells, change the e48, f48, g48, etc... to useful cells.
- I will typically have the first cell (that currently has e48) to cell b7 (the variable name).





Extracting

 So I will have something like this, where the contents of the cells in the highlighted box indicate the cell that I have used in the formula.

Elli Copy +	· K K = = ■ ◆ · □		General		Condition	ill benne	Norm		bry is	bood	Neut	nali el Celli	Note		Film Insert	lelets Format	187	m - Am	AL fred to		
Cluttoerd 5 Feet	Algebra		15 Number		Formattin	g+ Table+	-		Styles	9-91		0.000		- 0		Cefts	€ Clear *	Filter Editing	* Select *		
15 · 1 × √ fr																					
À	1	· c		1		G		1	1	K	1 1	M	14	0		Q		5	+	U	v
		-								_	-					4				-0	
Optimization Information																					
Optimization Technique	None																				
Parameters																					
Lower Boundaries																					
Upper Boundaries																					
Fixed Effects	Not Profiled																				
THEO ESPECIA	THE PROPERTY.										1										
Fit Statistics										_											
-2 flee Log Likelihood	26.5																				
AIC (smaller is better)	34.9																				
	46.9																				
AICC (smaller is better)	34.																				
BIC (smaller is better)																					
CAIC (smaller is better)	37.																				
HQIC (smaller is better)	12.4																				
Pearson Chi-Square	27.7																				
Pearson Chi-Square / DF	4.6																				
Type III Tests of Fixed Effects							_				15-0-15			100							
Effect	Num DF	Den DF	F Value	Prof				b7	h52	c52	853	c53	548	C48	D48	148					
trt			6 1.1	0.3383			- 1	TmFrstPrbFm6trt	3.4257	1.3422	5.1352	0.9622	2 1	- 6	1.1	0.3183					
trt Least Squares Means																					
trt	Estimate	Standard Erro	r DF	1 Value	Pr > t																
	3.425	1.242	12		0.033																
b	5.135				0.0018																
Differences of trt Least Squares Means																					
trt	_trt	Estimate	Standard Error	DE	1 Value	pealet.															
	6	-1.701				0.3183															
	1 54	7.00	- 100		100001																
† Grouping for																					
trt Least Squares																					
Means (Alpha-0.05)																					
LS-means with the																					
same letter are																					
not significantly																					
different.																					
trt	Estimate																				
b	5.135	A																			
•	3.425																				
9																					
Sheet1 (e)										1											
24																					





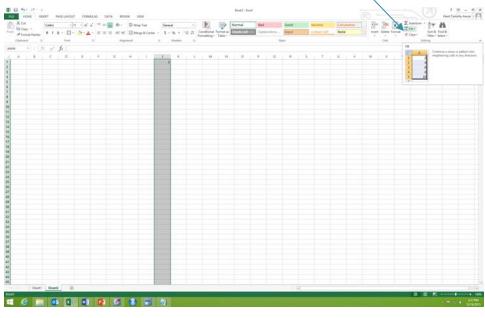
Extracting

- Fill cells i48 through q48 down to the end of the results (row 6491).
- Copy columns I through q.
- Open another worksheet, and paste values.
- In cell jl type the number one.
- Select all cells from jl through j6491.



Extracting

Right click the fill menu, and select series.









Extracting

- The default (type=linear, step=1) is great
- Column J should now have integers from one to 649 l
- Select columns A through J
- Sort column A in descending order.
- Select cells A89 through j89 through A6491 through j6491.
- Delete





Extracting

 Select columns J through A (not A through J) and sort smallest to largest. You should now have this:

Eth Copy		Calibri		- A A			₩ww.		General			7	Normal	Bad		Good	Neutral	Calcul	lation	1	123		∑ AutoSum ■ Fill -		Hi.	
ette & Forma	Fairter	B / U	- 🗆 -	<u>△</u> - <u>Δ</u> -	F H H	42.42	Mer	ge & Center	5 - % +	W 43	Conditional Formatting *	Table *	Check Cell	Expt	statory	Input	Unked Call	Note		Inser	Delete I	Format	€ Clear	Sort B. Fi Filter + Se		
Diphosed	- 6		Fort	6		Alleg	neet		S Norter	14					9	phes .					Cels			tting		
117 .	115	V.	6																							
- 2		c	D	1	,	0	н	1	3 K		M	N	0		Q	R.	\$ T	u	v	w	×	1 9	1	AA	AB	AC
				53 648	C48			E48	47																	
TrmFrstPrt	3.4253	1.2422	5.1352	0.9622	1	6	1.18	0.3183	48																	
CtoFrstE1	1.1314	0.9032	0.8205	0.4526	1	3	0.09	0.7783	119																	
Numf	0.6667	0.322	0.4	0.2494	1	6	0.43	0.537	190																	
DurFrstPrl	6.0817	1.3956	7,0742	1.081	1	6	0.32	0.5943	261																	
DurSendPi	4.767	0.7626	5.264	0.6605	1	5	0.24	0.6432	332																	
ShrtCbfrE:	7.5971	0.5434	8.1391	0.2717	1	- 3	0.6	0.418	403																	
DurSendZ TtiDurF	5.2824 7.8382	0.889	7.8382	0.7699	- 1	3	0.05	0.8366	474 545																	
Durtenpris	7.265	0.8027	5.3400	0.6218	- 1		1.7	0.24	616																	
meanpd	2.3457	0.4411	1.4858	0.3417	1	6	1.4		687																	
meanPD5	2.3457	0.4411	1.6858	0.3417	- 1	6	1.4		781																	
meanNPd	1.4674	0.8564	2.6253	0.6634	1	6	1.57	0.2566	852																	
meanF	7.8382	0.4992	7.8382	0.4992	1	2	0	1	923																	
TrastrtEPC	8.7964	0.3425	8.5436	0.2653	1	6	0.35	0.578	994																	
TimFemFes	8.77	0.3587	8,4982	0.2778	1	6	0.36	0.5711	1065																	
TmBegirt	7.5971	0.5434	8.1391	0.2727	1	3	0.8	0.438	1136																	
NumG	0	0.2108	0.2	0.1633	1	6	0.56	0.4816	1207																	
NumPrbs/	0.3333	0.3728	0.4828	0.2987	1	6	0.1	0.7619	1316																	
NmbrShrt.	0		0		1	6.			1387																	
NumE1	0.5774	0.4731	1.0928	0.3665	1	6	0.74	0.4221	1446																	
NumergE	0		0		1	6.			1517																	
NumSngli	0.5774		0.5464	0.3876	1	6	0		1576																	
	-5.65-17	0.3192	0.4828	0.2473	1	6	1.43		1647																	
Numi.ngE:	0	0.2108	0.2	0.1633	- 1	- 6	0.56		1718																	
DurFirstE	2.897	1.9361	4.8686	0.9681	1	- 3	0.83		1789																	
CritrbElto	4.6062	0.783	3.9897	0.3915	0.	- 1	0.5	0.5321	1860																	
DurE1Fildi PatE2Indx	5.1784 2.088	0.1293	0	0	0.				1950 2004																	
TtiDurt	6.2873	1.5534	5.7750	0.7767		3	0.00	0.7976	2056																	
TtiDurE1	6.2873	1.4852	5.1584	0.7426	1	1	0.46	0.5454	2129																	
TtIDurE1F	5.2719	1.2139	0	0	0.				2219																	
TtiDuring	6.2873	1.372	4.7277	0.7921	1	2	0.97	0.4287	2273																	
TtlDurEIF	6.5344	0.8412	0	0	0.				2544																	
TtiDurE2	6.1618	0.685	0	0	0.				2398																	
MnDurE1	5.189	0.8598	4.6093	0.4299	1	3	0.36	0.589	2452																	
MnDurf2	5.8153	0.3385	0	0	0.				2523																	
NumPrbs	3.8455	0.9068	2.0412	0.7024	1	. 6	2.47		2577																	
NmbrC	4.1789	0.7666	2.5311	0.5938	1	- 6	2.89		2648																	
NmbrShrt	2.8595	1.0428	0.8828	0.8077	1	6	2.25	0.1846	2719																	
NumNP	3.8703	0.9198	2.0412	0.7125	1	6	2.47	0.167	2790																	
NmbrPD	7.3297	1.6371	8.0572	1.2681	1	- 6	0.12	0.7374	2861																	
NmbrPDs,	0.		0.		1	6.		-	2932																	
NmbrPDS	7.3297	1.6371	8.0572	1.2681	1		0.12	0.7374	2991																	
NmbrESe	0.		0		1	6.			3062																	
	Sheett	Sheet2	•													1.0										
																							- 10			





Done

- If this was real data from your experiment then you should go and figure out why some variables like NumLngE2 have periods. In this case, treatment A had no E2, so it is easily explained.
- Further down there is a #Name? This is for the variables TtlDurF4 and TtlDurF5.
 The trimmed recording only goes to 2.8 hours. So this is not really a problem.



End

- This ends the basic tutorial.
- The process is almost the same for Windaq files.
- The only real difference is that you have to use the FileManipW program rather than the FileManipP program.

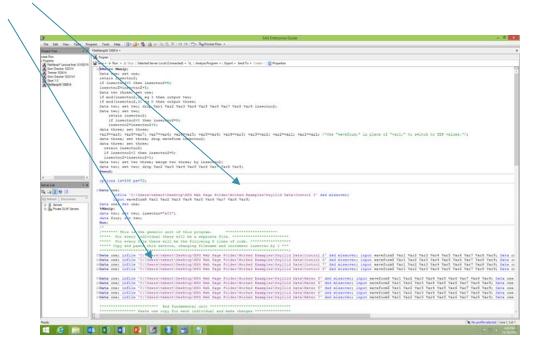




File Manip W

- The difference in terms of use is that FileManipW looks slightly different.
- The code is condensed so each line needs a different infile.







FileManipW

 And you need to scroll over to find the place to change the insect number.



3	SAS Enterprise Guide	- 0
File Edit View Table Fo.	topen top 10 @ @ (A) A to C (A) To A top to Top Top Top Top Top Top Top Top Top To	
Project Tree + 6	Flatfampit 10004 •	
mes Fire	₫ Proper	
Program		\
Fletteroff Lecture from 12/52/15 Envi Oracles 15/23/4		
Steener 102414 Stee Oracker 1023147		\
NeMark/W 100014		\
		\
		\
		\
	Var9 insectno2;	\
		\
		\
		\
	; vard-vard; vard-vard; vard-vard; /*Ope "waveform;" in place of "vard;" to switch to TSF values."/;	\
	A ARTHUR ARTHUR ARTHUR A ARTHUR TO THE ARTHUR AT ARTHUR AND ARTHUR AS THE ARTHUR AND ARTHUR A	\
		\
		\
		\
		\
		\
		\\
		\
netis + s		\
ATO I		\
	Examples\Payllid Data\Cootrul 1' ded missurer;	\
Sylvation December ."	191	\
II Serves II- II ₄ From DLM Serves		\
		\
	*************	\

	a	
	at insects by 1 ***	
	Highed Examples (Payllid Data Gootrol 2' ded missover; input waveform) Varl Varl Varl Varl Varl Varl Varl Varl	of Varity Data one; Set one; Manig: data two; set two; insertant and the mean a
	Birked Examples/Psyllid Data/Control 6" dad missover; isput waveform\$ Varl Var3 Var3 Var4 Var5 Var6 Var7 Va	rd Vary: Date one; Set one; tManip; date two; set two; insectnow ald ; proc a
	Hithed Enamples/Peyllid Data/Control 7' ded missorer; input maveform! Varl Varl Varl Varl Varl Varl Varl Varl	all Vary; Data one; det one; Wamip; data two; set two; insectno-"all"; proo a
	Hithed Enamples/Payllid Seta/Control 8' ded missorer; input wareform? Yarl Yarl Yarl Yarl Yarl Yarl Yarl Yarl	its vary; Data one; Set one; Manigo; data two; set two; insectno-"son"; proc a
	Nithed Samples Nevilld Data Nate: 3' ded missover; local waveforms Varl Varl Varl Varl Varl Varl Varl Varl	Vary; Data one; Set one; Wanin; data two; set two; insectnow bill'; prop app
	Highed Examples (Feyllid Seta Neter 6' ded missover; input waveformS Yarl Var2 Var3 Var4 Var5 Var6 Var7 Var8	
	Schod framples/Seyllid Data/Seter 5' ded missover; imput waveform\$ Varl Varl Varl Varl Varl Varl Varl Varl	
	Hished Examples/Payllid Data/Nater 6' ded missover; isput wavefored Yarl Varl Varl Varl Varl Varl Varl Varl V	
	The productive of the second o	tent care out and cont search; more test per test transcens, sond bron able
	1914 ***********************************	
anity .		Ne, No profile selected Gine 18, Co
# 😝 🚞 T	5 X	



Insect Number

- The format of the first insect number is very important.
- If the first insect number is a I, and you type in "a I" then you will get an error message when you get to insect "a I 0".
- To avoid this type in a leading space "al"





Insect Number

- In sorting insect "all" will appear after al, and you will have to go all the way to insect "al9" before you get to insect "a2".
- To avoid this issue type in zeros.
- So insect "al" is now insect "a01" if you have fewer than 100 insects per treatment, or insect "a001" if you have more that 100 but fewer than 1000.





The Next Steps

- Here is a list of steps.
 - Errors: An exercise where you try to find as many errors as possible.
 - Introduction to Backus 1.0
 - Introduction to Ebert X.X
 - Data Analysis
 - How the programs work, customizing the analysis
 - Programming FileManip
 - Programming Error Checker
 - Programming Trimmer
 - Programming Ebert X.X