Consecutive Numeric Regression Analysis

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Overview

This script will output the results from consecutive numeric regression tests which are run on one or more dependents.

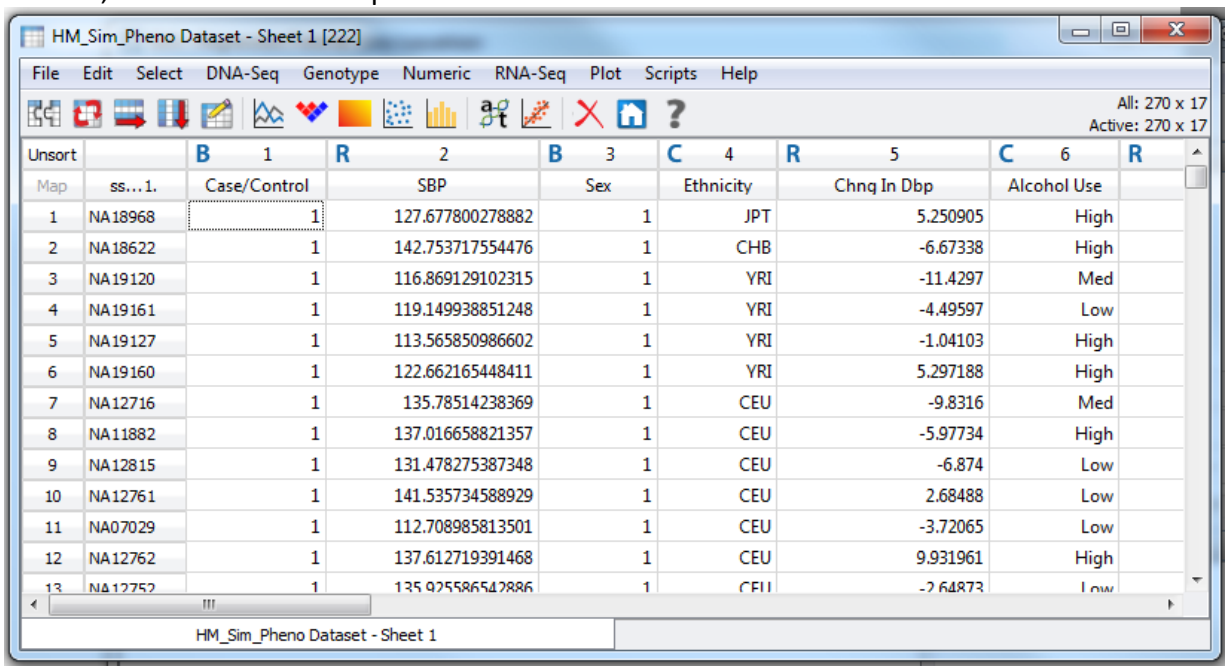
Recommended Directory Location

Save the script to the following directory:
***..\AppData\Local\Golden Helix SVS\UserScripts\Spreadsheet\Numeric**

Note: The **AppData (or Application Data)** folder is a hidden folder on Windows operating systems and its location varies between various versions. The easiest way to locate this directory on your computer is to open SVS and select the **Tools >Open Folder > User Scripts Folder** menu option and save the script in the **\Spreadsheet\Numeric** folder. If saved to the proper folder, this script will be accessible from the spreadsheet menu.

Using the Script

1. Open the spreadsheet containing the data to be analyzed. The data should be organized by column, such as in the example below.



Unsort		B 1	R 2	B 3	C 4	R 5	C 6	R
Map	ss...1.	Case/Control	SBP	Sex	Ethnicity	Chng In Dbp	Alcohol Use	
1	NA18968	1	127.677800278882	1	JPT	5.250905	High	
2	NA18622	1	142.753717554476	1	CHB	-6.67338	High	
3	NA19120	1	116.869129102315	1	YRI	-11.4297	Med	
4	NA19161	1	119.149938851248	1	YRI	-4.49597	Low	
5	NA19127	1	113.565850986602	1	YRI	-1.04103	High	
6	NA19160	1	122.662165448411	1	YRI	5.297188	High	
7	NA12716	1	135.78514238369	1	CEU	-9.8316	Med	
8	NA11882	1	137.016658821357	1	CEU	-5.97734	High	
9	NA12815	1	131.478275387348	1	CEU	-6.874	Low	
10	NA12761	1	141.535734588929	1	CEU	2.68488	Low	
11	NA07029	1	112.708985813501	1	CEU	-3.72065	Low	
12	NA12762	1	137.612719391468	1	CEU	9.931961	High	
13	NA12752	1	135.925586542886	1	CEU	-2.64873	Low	

Figure 1: Example Spreadsheet with the data column wise.

Make sure to inactivate (gray) any columns that you do not wish to include in your analysis. Also, dependents may be chosen here by setting the columns to dependent (magenta).

2. While in the spreadsheet window, select **Numeric > Consecutive Numeric Regression Analysis**.

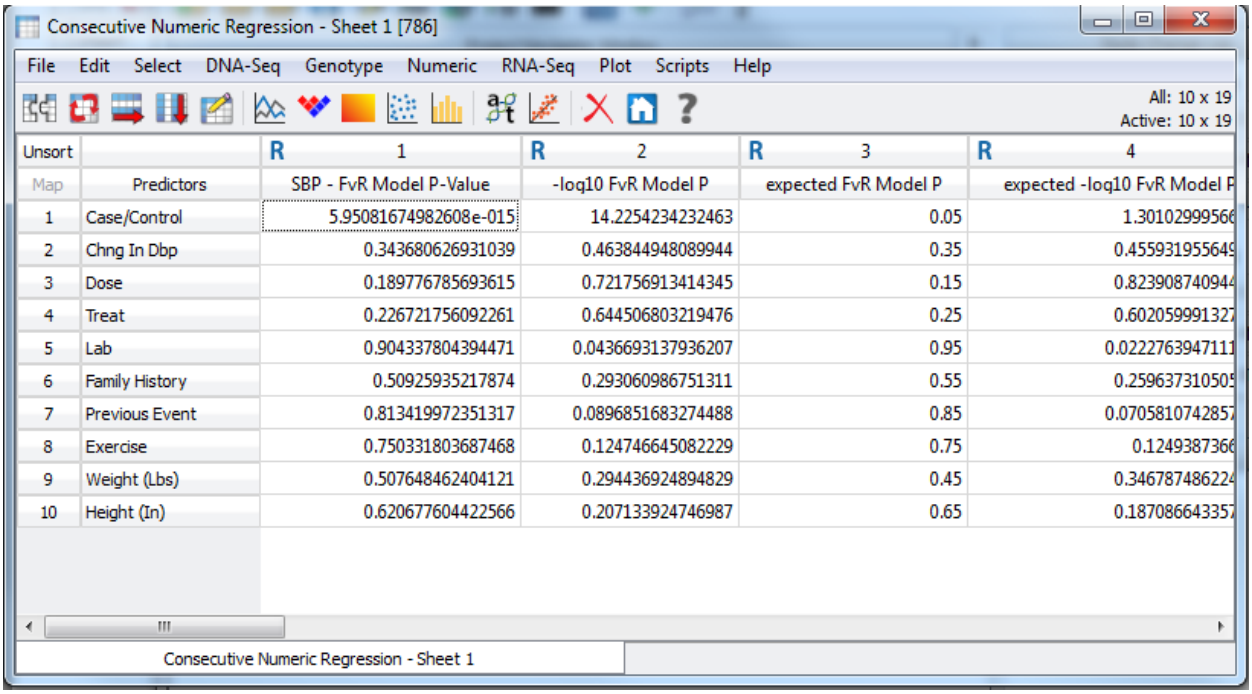
3. In the first box of the prompt window, specify any columns from your spreadsheet that you want to be dependent for this analysis in addition to those that you have manually set to dependent while you were viewing the spreadsheet. Optionally, use the second box to add the columns of any covariates you wish to use.

4. By default, the "Delete intermediate spreadsheet with samples in columns?" option is turned on. If this option is on, the script will delete the spreadsheets it created while running the analysis. If this option is turned off, the intermediate spreadsheets will be preserved rather than deleted. In any case, neither the final results spreadsheet nor the original spreadsheet will be deleted.

5. Click **OK** to run the analysis. When done, the final spreadsheet, called "Consecutive Numeric Regression," will pop up.

6. The Marker Map from the original spreadsheet will be applied to the results spreadsheet—this map will be row oriented.

7. Each dependent will have approximately 19 columns of output, exactly how many depending on the data type and whether covariates were chosen. All results will be compiled into one spreadsheet with one row for every predictor. The first column of output for each dependent variable will start with the dependent's name followed by a dash.



Unsort		R 1	R 2	R 3	R 4
Map	Predictors	SBP - FvR Model P-Value	-log10 FvR Model P	expected FvR Model P	expected -log10 FvR Model P
1	Case/Control	5.95081674982608e-015	14.2254234232463	0.05	1.30102999566
2	Chng In Dbp	0.343680626931039	0.463844948089944	0.35	0.455931955649
3	Dose	0.189776785693615	0.721756913414345	0.15	0.823908740944
4	Treat	0.226721756092261	0.644506803219476	0.25	0.602059991327
5	Lab	0.904337804394471	0.0436693137936207	0.95	0.0222763947111
6	Family History	0.50925935217874	0.293060986751311	0.55	0.259637310505
7	Previous Event	0.813419972351317	0.0896851683274488	0.85	0.0705810742857
8	Exercise	0.750331803687468	0.124746645082229	0.75	0.124938736
9	Weight (Lbs)	0.507648462404121	0.294436924894829	0.45	0.346787486224
10	Height (In)	0.620677604422566	0.207133924746987	0.65	0.187086643357

Figure 2: Example Results