

Consecutive Numeric Regression Analysis

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Overview

This script will output the results from consecutive numeric regression tests 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 > UserScripts 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 by column, such as 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	135.925586547886		1		CEU		-7.64873		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 can 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, add the columns from your spreadsheet that contain the dependents, this will include any columns you manually set to dependent while viewing the spreadsheet. In the second box add the columns of the covariates, optional.
4. By default, the “Delete intermediate spreadsheet with samples in columns?” option is turned on. This means that the script will delete the spreadsheets it created while running the analysis. Neither the final results spreadsheet nor the original will be deleted. If turned off, the intermediate spreadsheets will not be deleted.
5. Click **OK** to run the analysis.
6. When done, the final spreadsheet, called “Consecutive Numeric Regression,” will pop up.
7. The Marker Map from the original spreadsheet will try to be preserved and it will appear row oriented.
8. Each dependent will have about 19 (depends on the data type and whether covariates were chosen) columns of output. All results will be compiled into one spreadsheet with the rows by predictor. The first column of output for each dependent will start with the dependent’s name followed by a dash.

Map	Predictors	R 1 SBP - FvR Model P-Value	R 2 -log10 FvR Model P	R 3 expected FvR Model P	R 4 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	0.1249387366
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