



One-Way ANOVA analysis on sepal length for various species

This dataset contains measurements on various species of iris flowers. We will analyze the sepal length for each of the flower species.

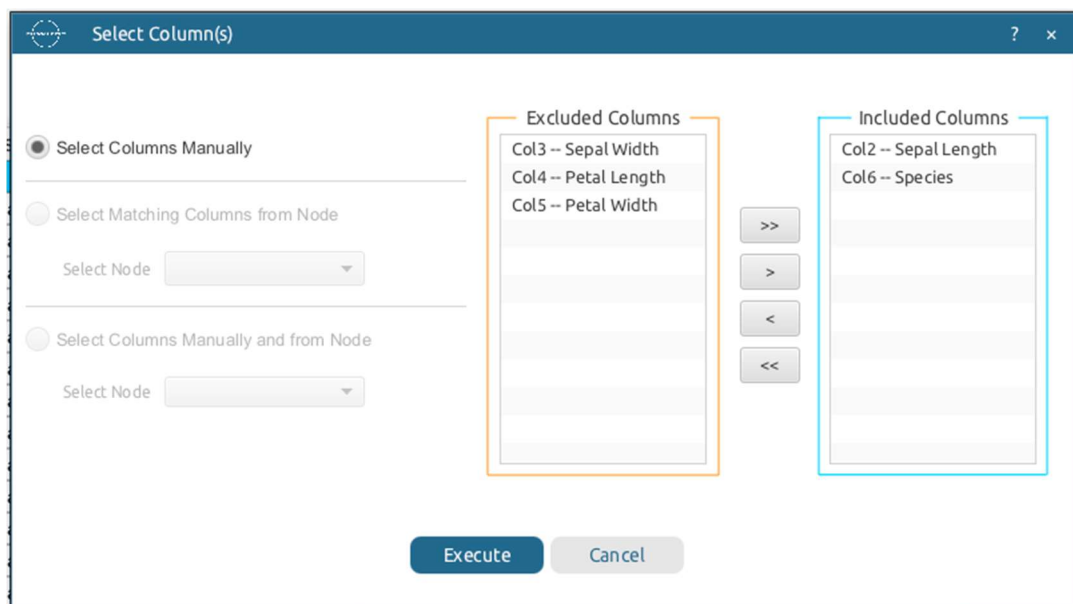
The variables examined are Sepal Length as a dependent variable and Species as factor.

Isalos version used: 2.1.2

Dataset: <https://archive.ics.uci.edu/dataset/53/iris>

Step 1: Data preparation

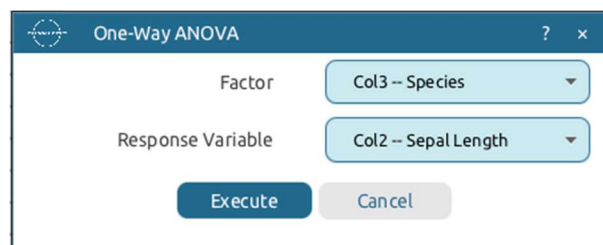
Import dataset and rename the tab to "Data". Go to Data Transformation → Data Manipulation → Select Column(s), "Col2 – Sepal Length", "Col6 -- Species" to the "Included Columns" and click "Execute"



	Col1	Col2 (D)	Col3 (S)
User Header	User Row ID	Sepal Length	Species
1		5.1	Iris-setosa
2		4.9	Iris-setosa
3		4.7	Iris-setosa
4		4.6	Iris-setosa
5		5.0	Iris-setosa
6		5.4	Iris-setosa
7		4.6	Iris-setosa
8		5.0	Iris-setosa
9		4.4	Iris-setosa
10		4.9	Iris-setosa
11		5.4	Iris-setosa
12		4.8	Iris-setosa
13		4.8	Iris-setosa
14		4.3	Iris-setosa
15		5.8	Iris-setosa
16		5.7	Iris-setosa
17		5.4	Iris-setosa
18		5.1	Iris-setosa
19		5.7	Iris-setosa
20		5.1	Iris-setosa
21		5.4	Iris-setosa
22		5.1	Iris-setosa

Step 2: One-Way ANOVA

Create a new tab named “ANOVA” and import the spreadsheet from the “Data” tab. To perform the analysis, go to Statistics → Analysis of (Co)Variance → One-Way ANOVA and select “Species” as Factor, “Sepal Length” as Response Variable and click Execute



The dialog box titled "One-Way ANOVA" has a search icon, a help icon, and a close icon. It contains two dropdown menus: "Factor" set to "Col3 -- Species" and "Response Variable" set to "Col2 -- Sepal Length". At the bottom are "Execute" and "Cancel" buttons.

The results are shown in the right spreadsheet:

	Col1	Col2 (D)	Col3 (D)	Col4 (D)	Col5 (D)	Col6 (D)	Col7 (D)	Col8 (D)	Col9 (D)	Col10 (D)
User Header	User Row ID	SSB (Between Groups):	SSW (Within Groups):	SST (Total):	dfB (Between):	dfW (Within):	MSB:	MSW:	F-statistic:	p-value:
1		63.2121333	38.9562000	102.1683333	2.0	147.0	31.6060667	0.2650082	119.2645022	0.0

Final Isalos Workflow:

