

# How can I perform logistic regression in Google Sheets?

Authored by  
**stats writer**

June 26, 2024

## RECOMMENDED CITATION

stats writer (2024). *How can I perform logistic regression in Google Sheets?*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=154349>

Logistic regression is a statistical analysis technique used to predict the likelihood of a binary outcome based on one or more independent variables. In order to perform logistic regression in Google Sheets, one can use the built-in function "LOGEST". This function allows the user to input the data and specify the independent and dependent variables, as well as any additional parameters. Once the function is applied, the resulting output will provide the regression coefficients and other relevant statistical information. Google Sheets also offers various charting options to visually represent the logistic regression model. Overall, performing logistic regression in Google Sheets is a simple and effective way to analyze and predict binary outcomes using readily available data.

## Perform Logistic Regression in Google Sheets

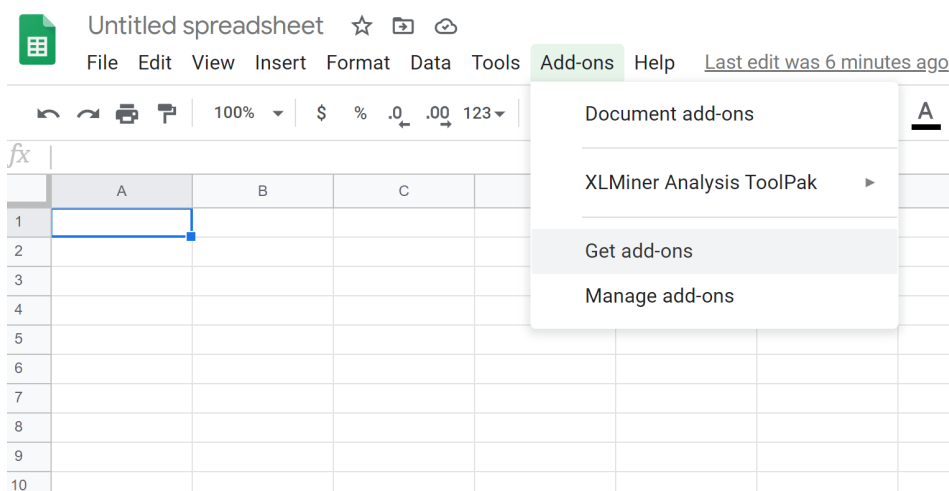
**Logistic regression is a method we can use to fit a regression model when the response variable is binary.**

**The following step-by-step example shows how to perform logistic regression in Google Sheets.**

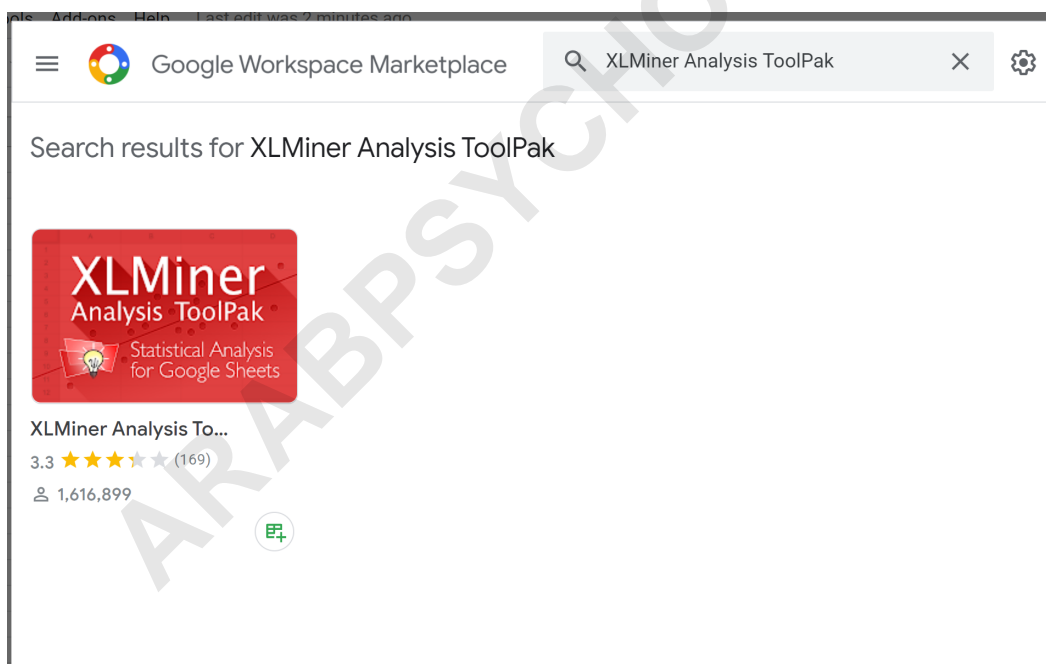
**Step 1: Install the XLMiner Analysis ToolPak**

**To perform logistic regression in Google Sheets, we need to first install the free XLMiner Analysis Toolpak.**

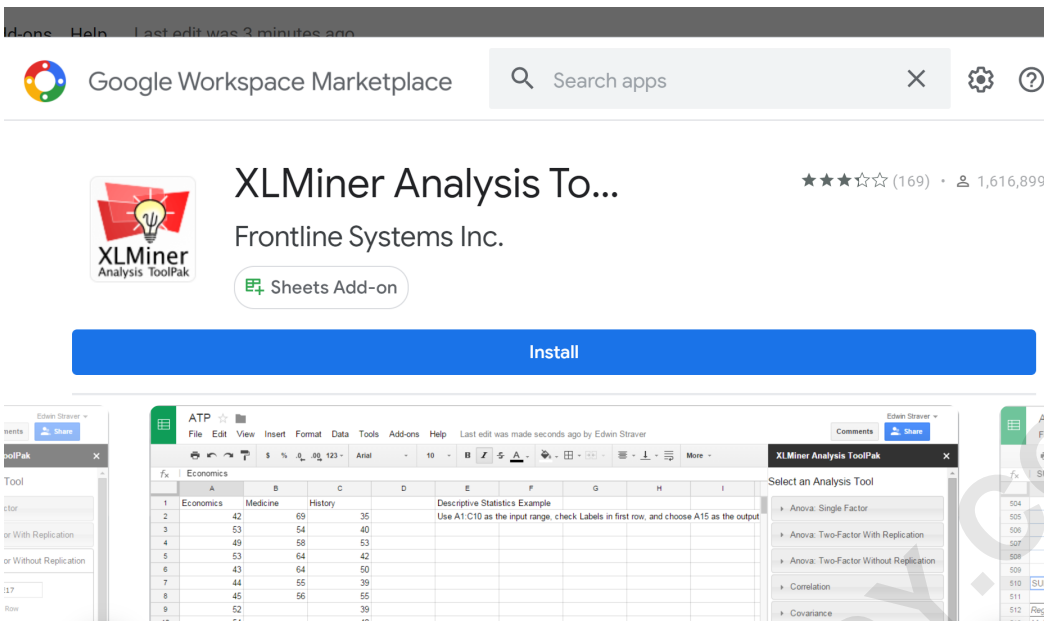
**To do so, click Add-ons > Get add-ons:**



**Next, type XLMiner Analysis ToolPak in the search bar and click the icon that appears:**



**Lastly, click the blue Install button.**



Google Workspace Marketplace

Search apps

**XLMiner Analysis To...** ★★☆☆☆ (169) · 1,616,899

Frontline Systems Inc.

Sheets Add-on

**Install**

ATP

	A	B	C	D	E	F	G	H	I
1	Economics	Medicine	History	35	Descriptive Statistics Example				
2		42	69	35	Use A1:C10 as the input range, check Labels in first row, and choose A15 as the output				
3		53	54	40					
4		49	58	53					
5		53	64	42					
6		43	64	50					
7		44	55	39					
8		45	56	55					
9		52	39						
10									

Select an Analysis Tool

- Anova: Single Factor
- Anova: Two-Factor With Replication
- Anova: Two-Factor Without Replication
- Correlation
- Covariance

## Step 2: Enter the Data

Next, we'll enter the following data into Google Sheets:

	A	B	C	D	E
1	<b>Drafted</b>	<b>Points</b>	<b>Assists</b>		
2		0	5	3	
3		0	8	5	
4		0	12	5	
5		1	37	4	
6		0	14	6	
7		1	29	7	
8		0	15	8	
9		1	22	7	
10		0	10	6	
11		1	15	7	
12		0	9	6	
13		0	9	3	
14		0	8	8	
15		0	27	5	
16		0	19	10	
17		0	30	12	
18		0	9	9	
19		0	13	11	
20		1	29	2	
21		1	26	9	
22					
23					
24					
25					

**We will fit a logistic regression model that uses points and assists to predict whether a basketball player gets drafted into the NBA (0 =No, 1 = Yes).**

### **Step 3: Perform Logistic Regression**

**To fit the logistic regression model, click the Extensions tab, then click XL Miner Analysis ToolPak, then click Start:**

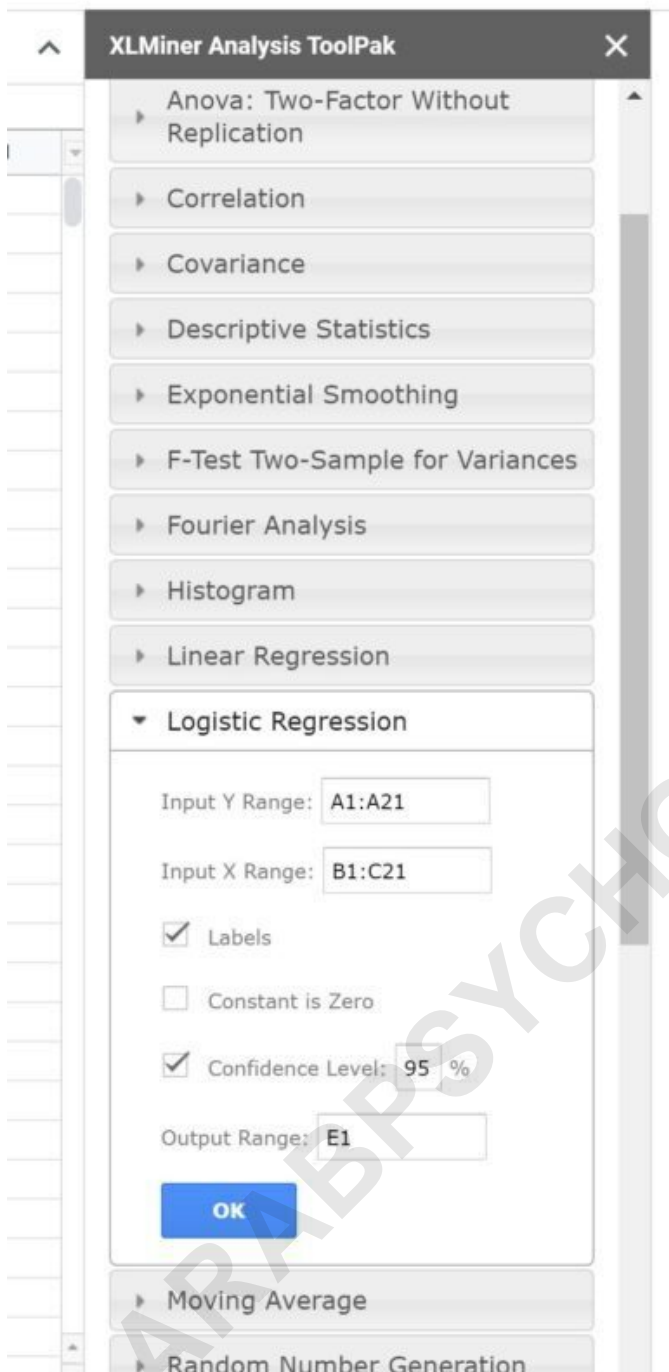
Format Data Tools Extensions Help Last edit was 5 minutes ago

\$ % .0 .00 123

	C	H	I
	<b>Assists</b>		
5	3		
8	5		
12	5		
17	4		
14	6		
19	7		
15	8		
22	7		
10	6		
15	7		
9	6		
9	3		
8	8		
17	5		
19	10		
30	12		
9	9		
13	11		
19	2		

- Add-ons
- Macros
- Apps Script
- AppSheet
- Goal Seek
- XLMiner Analysis ToolPak
  - Start
  - Help

ARABPSYCHOLOGY.COM



**Once you click OK, the summary of the logistic regression model will be displayed:**

E	F	G	H	I	J	K
SUMMARY OUTPUT						
Regression Statistics						
Chi Square	10.0933809					
Residual Dev.	14.34119118					
# of iterations	6					
Observations	20					
	Coefficients	Standard Error	P-value	Odd Ratio	Lower 95%	Upper 95%
Intercept	-3.180450675	2.252509779	0.1579621358	0.04156691775	0.000502814764	3.436272703
Points	0.2124842753	0.0915993046	0.02035630313	1.236746666	1.033501899	1.479960818
Assists	-0.259214112	0.2796215261	0.3539173296	0.7716577842	0.4460776529	1.334870133

The coefficients in the output indicate the average change in log odds of getting drafted.

For example, a one unit increase in points is associated with an average increase of 0.212 in the log odds of getting drafted.

The sign on the coefficients tells us whether there is a positive or negative associated between each predictor variable and the response variable.

For example, since points has a positive sign for the coefficient it means that increasing the value for points

**increases the chances that a player gets drafted (assuming assists is held constant).**

**Conversely, since assists has a negative sign for the coefficient it means that increasing the value for assists decreases the chances that a player gets drafted (assuming points is held constant).**

**The p-values in the output also give us an idea of how effective each predictor variable is at predicting the probability of getting drafted:**

**P-value for points: 0.02 P-value for assists: 0.35**

**We can see that points seems to be a statistically significant predictor variable since it has a p-value less than .05, but assists does not seem to be statistically significant since it does not have a p-value less than .05.**

**The following tutorials explain how to perform other common tasks in Google Sheets:**