



StatsMate

User Guide

Overview

StatsMate is an easy-to-use powerful statistical calculator. It has been featured by Apple on Apps For Learning Math in the App Stores around the world.

- StatsMate comes with
 - ▶ 17 Probability Distribution Calculators
 - ▶ 10 Hypothesis Testing Calculators
 - ▶ 4 p-Value Calculators
 - ▶ 2 Confidence Interval Calculators
 - ▶ A Basic Data Analysis Calculator with Histogram Creator
 - ▶ 2 ANOVA Calculators
 - ▶ A Linear Regression Calculator
- You can export datasets created by StatsMate as a PDF file, a Microsoft Excel spreadsheet, a CSV file, or a text file. You can export calculation and analysis results via AirPrint, email, message, or open in other apps.

- StatsMate comes with a customized keyboard with built-in scientific calculator.
- With Dataset Management, you can manage, save, and import datasets created on other apps or devices. You can store your datasets locally or on the iCloud. Supported document types are Microsoft Excel spreadsheet, CSV, plain text, and rich text.

Probability Distributions

In *Probability Distributions* mode, you can calculate the probability from a critical point, and calculate the critical point from a probability.

The screenshot shows a mobile application interface for calculating Normal Distribution probabilities. The title bar reads "Normal Distribution" with a back arrow on the left, an information icon (i), and an export icon (upward arrow) on the right. Below the title bar is a graph of a normal distribution curve with a vertical line at the mean and a shaded area under the curve to the left of a critical value 'a'. Below the graph, the text "Area Type" is displayed. Underneath the graph, the text "Lower Tail: $P(X \leq a)$ " is shown. Below this text are four input fields: 'a' with the value 1.64485, 'b', 'Probability' with the value 0.95, and 'Mean' with the value 0.0. At the bottom of the screen is a navigation bar with five icons: a bell for "Distributions", H_0 for "Tests", a scatter plot for "Data Analysis", a document for "Editor", and a question mark for "Support".

Export the result

More information

Tap to change the area type

Enter a critical value to find the probability

Enter a probability to find the critical value

Enter parameters for each distribution

Parameter	Value
a	1.64485
b	
Probability	0.95
Mean	0.0

Distributions Tests Data Analysis Editor Support

StatsMate calculates the following probability distributions:

- Uniform Distribution
- Normal Distribution
- Chi Square Distribution
- Gamma Distribution
- Exponential Distribution
- Beta Distribution
- t Distribution
- Noncentral t Distribution
- F Distribution
- Lognormal Distribution
- Weibull Distribution
- Cauchy Distribution
- Binomial Distribution
- Poisson Distribution
- Geometric Distribution
- Negative Binomial Distribution
- Hypergeometric Distribution

Statistical Tests

In *Statistical Tests* mode, you can do hypothesis testings and calculate p-values and confidence intervals.

The screenshot shows the 'One-sample z Test (μ)' interface. At the top, there is a back arrow, the title 'One-sample z Test (μ)', an information icon (i), and an export icon. Below the title, the 'Alternative Hypothesis' is set to 'Upper-Tailed Test ($H_a: \mu > \mu_0$)'. A button labeled 'Calculate from a data set' is visible. The main input area contains a table with the following parameters:

Null Value (μ_0)	Null Value (μ_0)
P(Type I error) (α)	P(Type I error) (α)
Sample Mean (\bar{x})	0.0
SD (σ or s)	1
Sample Size (n)	1

At the bottom, there is a navigation bar with icons for 'Distributions', 'Tests', 'Data Analysis', 'Editor', and 'Support'. The 'Tests' icon is highlighted.

Callout boxes provide the following instructions:

- Export the result**: Points to the export icon.
- More information**: Points to the information icon (i).
- Tap to change the alternative hypothesis**: Points to the 'Upper-Tailed Test ($H_a: \mu > \mu_0$)' text.
- Calculate parameters from a dataset**: Points to the 'Calculate from a data set' button.
- Enter all values required to calculate the rejection region and test statistic.**: Points to the input fields for P(Type I error) (α), Sample Mean (\bar{x}), SD (σ or s), and Sample Size (n).

StatsMate performs the following statistical tests and calculations:

Hypothesis Testings

- One-sample z Test (μ)
- One-proportion z Test (p)
- One-sample t Test (μ)
- Two-sample z Test (μ_1, μ_2)
- Two-sample t Test (μ_1, μ_2)
- Two-sample Pooled-t Test (μ_1, μ_2)
- Paired Sample t Test (d)
- Two-proportion z Test (p_1, p_2)
- Chi Square Test for SD (σ)
- F Test for two SD's (σ_1, σ_2)

p-Values

- p-Value for Z Tests
- p-Value for t Tests
- p-Value for F Tests
- p-Value for Chi Square Tests

Confidence Intervals

- Large-Sample Confidence Intervals
- Confidence Intervals for Population Variance

Data Analysis

In Data Analysis mode, you can perform basic data analysis, linear regression, one-way ANOVA, and randomized block design ANOVA.

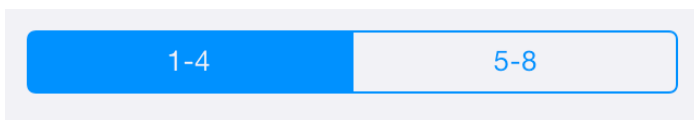
The screenshot shows the 'One-Way ANOVA' interface. At the top, there is a navigation bar with a back arrow, the text 'One-Way ANOVA', an upload icon, and a plus sign. Below this is a 'Calculate' button. Underneath are 'Save Data' and 'Import Data' buttons. A data table is displayed with 5 rows and 3 columns. The first column is labeled '1', the second '3', and the third 'Column 3'. A callout points to the 'Calculate' button. Another callout points to the plus sign. A third callout points to the 'Save Data' and 'Import Data' buttons. A fourth callout points to the 'Column 3' header. A fifth callout points to the data cells in the 'Column 3'.

1	3	Column 3
2	2	
3	1	
4	4	
5	5	

Callouts:

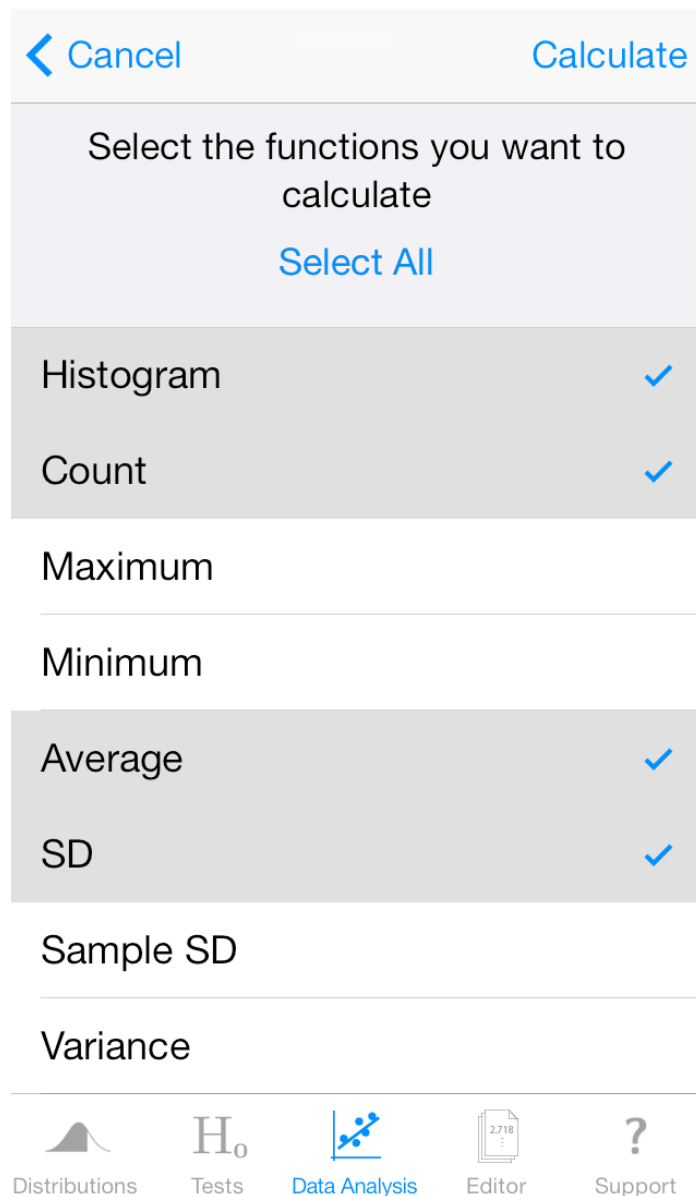
- Tap to calculate
- Add new column
- Export data
- Tap to save or import data (Dataset Management required)
- Tap to edit data. Swipe to delete a single cell.

StatsMate now supports multiple column datasets.

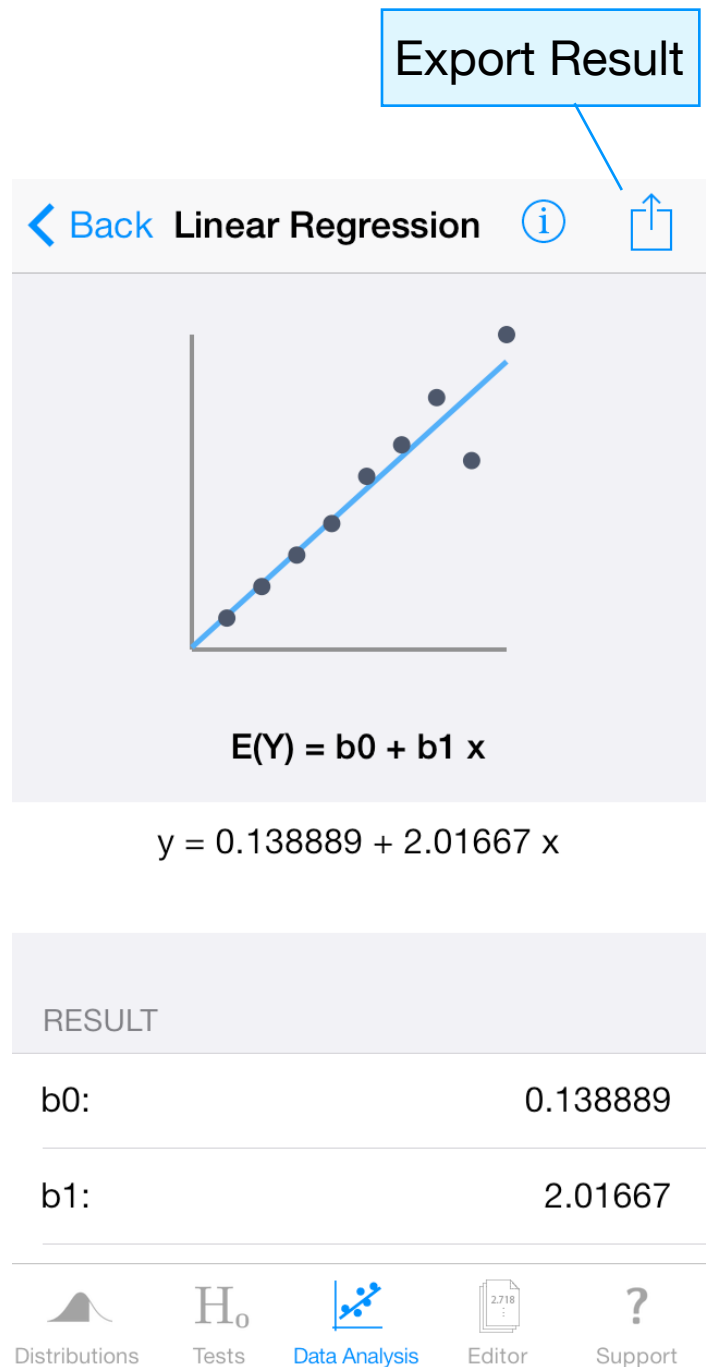
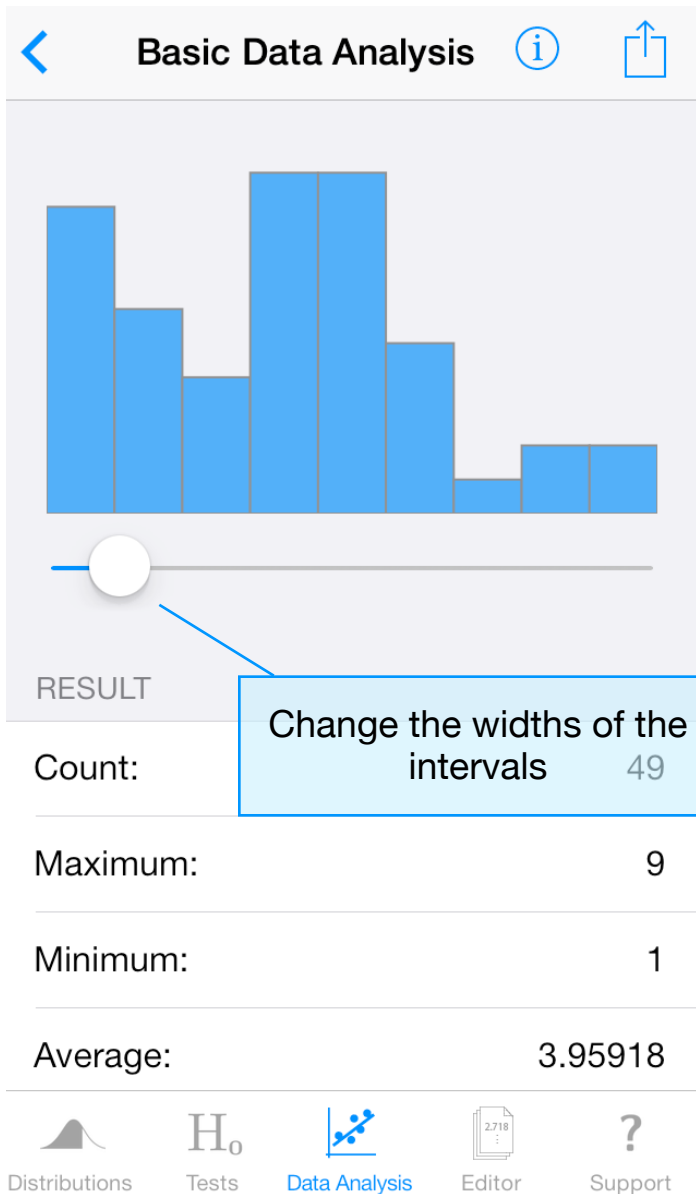


A segment control will show up if there are more than 4 columns.

In Basic Data Analysis, once you tap 'Calculate,' select the functions you want to calculate then tap 'Calculate.'



Examples of Result Pages



Dataset Management

With Dataset Management, you can save and manage your data. You can also import datasets created on other apps or devices. StatsMate now support multiple column datasets.

You can store your data locally or on the iCloud*. If you choose to store your data on the iCloud, you data will be synced across all of your iOS devices. You can change the preference anytime in Setting -> StatsMate.

The screenshot shows the 'Dataset Management' interface. At the top, there are two tabs: 'Edit' (selected) and 'Storage'. To the right of the 'Storage' tab is a plus sign (+) button. Below the tabs is a list of datasets, each with a title and a timestamp, and a chevron (>) icon to its right. The datasets listed are: 'Untitled-2' (Today, 10:43 PM), 'sec 204 scores' (Today, 10:43 PM), 'dataset' (Today, 9:54 PM), 'multiple column support' (Today, 6:07 PM), and 'this is a test' (Aug 26, 2013, 8:16 PM). Three callout boxes are present: a blue box pointing to the plus sign with the text 'Create a new dataset'; a blue box pointing to the chevron of the 'sec 204 scores' dataset with the text 'Tap to select a dataset. Swipe to delete.'; and a red box at the bottom right with the text '*StatsMate 3.0 internal file format is different than those in the older versions. If you store your data on the iCloud, older version of StatsMate on other devices might crash. Please update StatsMate on all of your devices.'

Edit **Storage** + Create a new dataset

Untitled-2
Today, 10:43 PM

sec 204 scores
Today, 10:43 PM Tap to select a dataset. Swipe to delete.

dataset
Today, 9:54 PM

multiple column support
Today, 6:07 PM

this is a test
Aug 26, 2013, 8:16 PM

*StatsMate 3.0 internal file format is different than those in the older versions. If you store your data on the iCloud, older version of StatsMate on other devices might crash. Please update StatsMate on all of your devices.

Export

Create a new column

< Back



Filename: multiple column support 3

1-4

5-8

If there are more than 4 columns, a segment control will appear.

Tap to change filename

2	3	1.36
5	6	2.96
7	8	4.89
10	11	12
	13	14
		15

Swipe to delete a cell

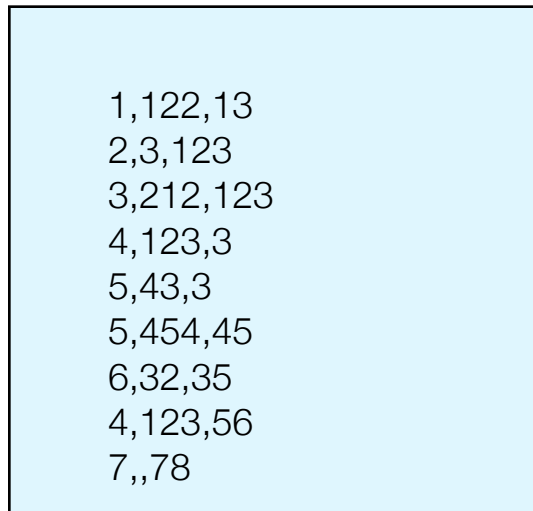
7	8	9	
4	5	6	+/-
1	2	3	Next→
Calc	0	.	Next←

- CSV (Comma-Separated-Value Document)

StatsMate only supports CSV documents that use 'comma' (,) as the separator for columns and use 'new line' as the separator for rows.

- Plain Text and Rich Text Documents

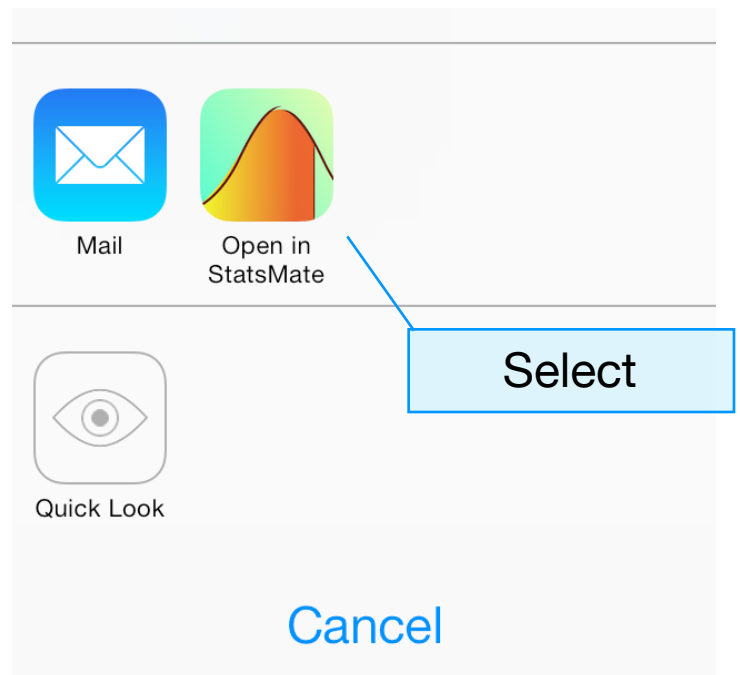
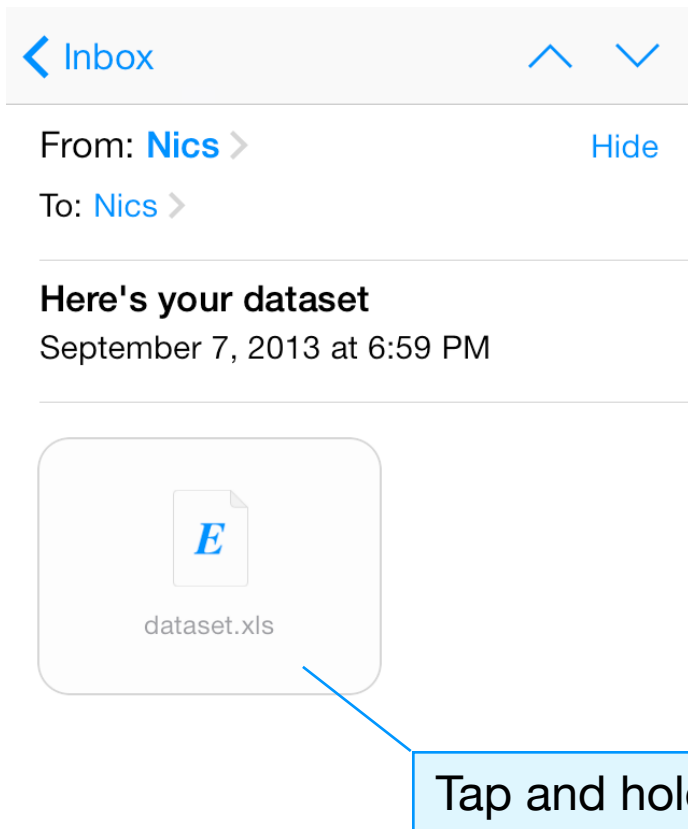
Use 'comma' (,) as the separator for columns and use 'new line' as the separator for rows. Do not include any text.



```
1,122,13  
2,3,123  
3,212,123  
4,123,3  
5,43,3  
5,454,45  
6,32,35  
4,123,56  
7,,78
```

How to import data

1. Create your dataset using other apps or devices.
2. Transfer the file to your iOS devices via email, message, Airdrop, or any other apps that are able to export files such as Dropbox.
3. Activate the 'Open in...' option. This depends on the app you are using. For example, in Mail, tap and hold the attachment to activate 'Open in...' option.
4. In the 'Open in...' menu, select 'Open in StatsMate' from the list.



Setting

You can set displayed number format in the Setting app. Go to the Setting app on your home screen, then scroll down to StatsMate.

You can also select where to store your data here.

