

# EXAMPLE - Statistical Functions Sample Method

This example shows some of the statistical functions that use the sample method of computation.

## Functions:

Item	Description
STDEVSAMP Function	Computes the standard deviation across column values of Integer or Decimal type using the sample statistical method.
VARSAMP Function	Computes the variance among all values in a column using the sample statistical method. Input column can be of Integer or Decimal. If no numeric values are detected in the input column, the function returns 0.
STDEVSAMP IF Function	Generates the standard deviation of values by group in a column that meet a specific condition using the sample statistical method.
VARSAMPIF Function	Generates the variance of values by group in a column that meet a specific condition using the sample statistical method.
ROUND Function	Rounds input value to the nearest integer. Input can be an Integer, a Decimal, a column reference, or an expression. Optional second argument can be used to specify the number of digits to which to round.

## Source:

Students took tests on three consecutive Saturdays:

Student	Date	Score
Andrew	11/9/19	81
Bella	11/9/19	84
Christina	11/9/19	79
David	11/9/19	64
Ellen	11/9/19	61
Fred	11/9/19	63
Andrew	11/16/19	73
Bella	11/16/19	88
Christina	11/16/19	78
David	11/16/19	67
Ellen	11/16/19	87
Fred	11/16/19	90
Andrew	11/23/19	76
Bella	11/23/19	93
Christina	11/23/19	81
David	11/23/19	97
Ellen	11/23/19	97
Fred	11/23/19	91

## Transformation:

You can use the following transformations to calculate standard deviation and variance across all dates using the sample method. Each computation has been rounded to three digits.

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	round(stdevsamp(Score), 3)
<b>Parameter: New column name</b>	'stdevSamp'

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	round(varsamp(Score), 3)
<b>Parameter: New column name</b>	'varSamp'

You can use the following to limit the previous statistical computations to the last two Saturdays of testing:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	round(stdevsampif(Score, Date != '11\9\2019'), 3)
<b>Parameter: New column name</b>	'stdevSampIf'

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	round(varsampif(Score, Date != '11\9\2019'), 3)
<b>Parameter: New column name</b>	'varSampIf'

**Results:**

Student	Date	Score	varSampIf	stdevSampIf	varSamp	stdevSamp
Andrew	11/9/19	81	94.515	9.722	131.673	11.475
Bella	11/9/19	84	94.515	9.722	131.673	11.475
Christina	11/9/19	79	94.515	9.722	131.673	11.475
David	11/9/19	64	94.515	9.722	131.673	11.475
Ellen	11/9/19	61	94.515	9.722	131.673	11.475
Fred	11/9/19	63	94.515	9.722	131.673	11.475
Andrew	11/16/19	73	94.515	9.722	131.673	11.475
Bella	11/16/19	88	94.515	9.722	131.673	11.475
Christina	11/16/19	78	94.515	9.722	131.673	11.475

David	11/16/19	67	94.515	9.722	131.673	11.475
Ellen	11/16/19	87	94.515	9.722	131.673	11.475
Fred	11/16/19	90	94.515	9.722	131.673	11.475
Andrew	11/23/19	76	94.515	9.722	131.673	11.475
Bella	11/23/19	93	94.515	9.722	131.673	11.475
Christina	11/23/19	81	94.515	9.722	131.673	11.475
David	11/23/19	97	94.515	9.722	131.673	11.475
Ellen	11/23/19	97	94.515	9.722	131.673	11.475
Fred	11/23/19	91	94.515	9.722	131.673	11.475