

Here is a one-hour lecture topic on the STDEV and CORREL functions in Excel, along with examples:

Lecture Topic: Statistical Functions in Excel: STDEV and CORREL

Duration: 1 hour

Objective: By the end of this lecture, students will be able to understand and apply the STDEV and CORREL functions in Excel to analyze and interpret data.

STDEV Function:

The STDEV function in Excel returns the standard deviation of a sample of data.

Syntax: `STDEV(range)`

Example: `=STDEV(A1:A10)`

Description: This formula returns the standard deviation of the values in cells A1 through A10.

STDEVP Function:

The STDEVP function in Excel returns the standard deviation of a population based on a sample of data.

Syntax: `STDEVP(range)`

Example: `=STDEVP(A1:A10)`

Description: This formula returns the standard deviation of the population based on the values in cells A1 through A10.

CORREL Function:

The CORREL function in Excel returns the correlation coefficient between two ranges of data.

Syntax: CORREL(range1, range2)

Example: =CORREL(A1:A10, B1:B10)

Description: This formula returns the correlation coefficient between the values in cells A1 through A10 and cells B1 through B10.

Examples and Exercises:

- Calculate the standard deviation of a dataset of exam scores: 80, 70, 90, 85, 75, 95, 80, 85, 90.
- Use the STDEVP function to analyze the variability of a dataset of stock prices.
- Calculate the correlation coefficient between two datasets: dataset A (80, 70, 90, 85, 75) and dataset B (90, 85, 80, 75, 70).
- Use the CORREL function to analyze the relationship between two variables: the number of hours studied and the exam score.

Conclusion:

In this lecture, we covered the STDEV and CORREL functions in Excel, including their syntax, examples, and exercises. We also discussed how to apply these functions to analyze and interpret data in real-world scenarios.

عنوان المحاضرة: دوال الاحصاء في إكسل: الانحراف المعياري والارتباط

مدة المحاضرة: ساعة واحدة

هدف المحاضرة: بعد نهاية هذه المحاضرة، سيكون الطالب قادرًا على فهم وتطبيق دوال الانحراف المعياري والارتباط في إكسل لتحليل وتقسيم البيانات.

دالة الانحراف المعياري:

دالة الانحراف المعياري في إكسل ترجع الانحراف المعياري لعينة من البيانات.

Syntax: **STDEV(range)**

مثال (=STDEV(A1:A10)**)**

وصف : هذه الصيغة ترجع الانحراف المعياري لقيم الخلايا من A1 إلى A10.

دالة الانحراف المعياري للسكان:

دالة الانحراف المعياري للسكان في إكسل ترجع الانحراف المعياري للسكان σ_x على عينة من البيانات.

Syntax: **STDEVP(range)**

مثال (=STDEVP(A1:A10)**)**

وصف : هذه الصيغة ترجع الانحراف المعياري للسكان σ_x على قيم الخلايا من A1 إلى A10.

دالة الارتباط:

دالة الارتباط في إكسل ترجع معامل الارتباط بين مدى من البيانات.

Syntax: **CORREL(range1, range2)**

مثال (=CORREL(A1:A10, B1:B10)**)**

وصف : هذه الصيغة ترجع معامل الارتباط بين قيم الخلايا من A1 إلى A10 وقيم الخلايا من B1 إلى B10.

أمثلة وتدريبات:

احسب الانحراف المعياري لمجموعة بيانات من درجات الامتحان: 80، 70، 90، 90، 75، 85، 80، 85، 95، 80، 90.

استخدم دالة الانحراف المعياري للسكان لتحليل تباين مجموعة بيانات من أسعار الأسهم.

احسب معامل الارتباط بين مجموعتين من البيانات: مجموعة A (70، 80، 90)، مجموعة B (70، 75، 80، 85، 90).

استخدم دالة الارتباط لتحليل العلاقة بين متغيرين: عدد ساعات الدراسة ودرجات الطلبة

- STDEV :

The screenshot shows a Microsoft Excel spreadsheet titled "exceljet_stdev.p.xlsx". The formula bar at the top displays "=STDEV.P(C5:C11)". The active cell is F7, which contains the formula. Below the formula bar, the ribbon tabs are visible: File, Home, Insert, Page Layout, Formulas, Data, Review, and View. The "Home" tab is selected. The main content area shows a table with two columns: "Number" and "Score". The "Score" column contains values 102, 99, 97, 100, 98, 105, and 102. To the right of the table, there is a summary table with three rows: "Count" (7), "Average" (100.4), and "Standard dev." (2.6). The "Standard dev." cell is highlighted with a black border. The status bar at the bottom indicates "Sheet1" and "Ready".

- STDEV P. :

The screenshot shows a Microsoft Excel spreadsheet titled "exceljet_stdevp.xlsx". The formula bar at the top displays "=STDEV.P(C5:C11)". The active cell is F7, which contains the formula. Below the formula bar, the ribbon tabs are visible: File, Home, Insert, Page Layout, Formulas, Data, Review, and View. The "Home" tab is selected. The main content area shows a table with two columns: "Number" and "Score". The "Score" column contains values 102, 99, 97, 100, 98, 105, and 102. To the right of the table, there is a summary table with three rows: "Count" (7), "Average" (100.4), and "Standard dev." (2.6). The "Standard dev." cell is highlighted with a black border. The status bar at the bottom indicates "Sheet1" and "Ready".

- STDEV S.

The screenshot shows a Microsoft Excel spreadsheet titled "exceljet_stdev.s.xlsx - Microsoft Excel". The formula bar at the top displays the formula `=STDEV.S(C5:C11)`. The main area of the spreadsheet contains a table with two columns: "Number" and "Score". The "Score" column has values 102, 99, 97, 100, 98, 105, and 102. To the right of this table is a summary table with three rows: "Count" (7), "Average" (100.4), and "Standard dev." (2.8). The "Standard dev." cell is highlighted with a black border. The Excel ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, and View. The status bar at the bottom shows "Sheet1" and "Ready".

Number	Score
1	102
2	99
3	97
4	100
5	98
6	105
7	102

Count	7
Average	100.4
Standard dev.	2.8