**Excel skills**

AVERAGE

SUM

MEDIAN

MAX

MIN

STDEV

a measure that is used to quantify the amount of variation or [dispersion](https://en.wikipedia.org/wiki/Statistical_dispersion) of a set of data values.[[1]](https://en.wikipedia.org/wiki/Standard_deviation#cite_note-StatNotes-1) A low standard deviation indicates that the data points tend to be close to the [mean](https://en.wikipedia.org/wiki/Mean) (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values.

The Standard Deviation is a measure of how spread out numbers are.

Its symbol is **σ** (the greek letter sigma)

The formula is easy: it is the **square root** of the **Variance.**

So now you ask, "What is the Variance?"

The Variance is defined as: The average of the **squared** differences from the Mean.

**Favorite colors**

COUNTIF – counts up something IF it is…

=CHOOSE(RANDBETWEEN(1,6),"Red","Blue","Yellow","Green","Purple","Orange")

To generate the colors that were counted…

=IF(E2>5,TRUE,FALSE)

=IF(AND(H5,NOT(C5)), TRUE, FALSE)

**Gradebook**

=IF(F2>=59.5,"Pass","Fail")

=IF(F2>=90,"A",IF(F2>=80,"B",IF(F2>=70,"C",IF(F2>=60,"D",IF(F2<59.5,"F")))))

**Product Sales**

UnitsSold\*UnitPrice TO MULTIPLY

**Apples & Oranges**

=RANDBETWEEN(1,10) to generate #s vs. colors above…

=Apples!A14 pulls data from 1 sheet to the next

=IF(B2>B3,"Apples","Oranges") winner for each category

=IF(COUNTIF(B4:F4,"Oranges")>COUNTIF(B4:F4,"Apples"),"Oranges","Apples")

For overall winner

TOP 5000 SONGS

Pivot tables are exceptionally helpful when dealing with datasets that are large in scale, but contain enough similarities between data points to find commonalities. For this activity, you will be taking a 5000 row spreadsheet containing data on the top 5000 songs from 1901 on and using pivot tables to uncover which artists have the most songs in the top 5000, what they are, and what year they came out.

EXTRA HELP WITH THIS…

**Product Pivot**

=VLOOKUP(B2,'Product List'!$A$1:$C$18,3)

determines product price referencing product ID