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# Useful Formatting tricks

🖊 Format painter

🖊 Freeze panes
- View – freeze panes

🖊 Print setting
- Page layout – print area -> set print area
- Print selection
- Scaling

# Auto Filter

✎ Highlight entire data range (including header)
- Data -> filter
- Direct search
- Text filter
- Number filte

✎ When a filter is on:
- The triangle on the drop down button will show the filter icon
- The row numbers on the left side of the screen will also turn blue.

✎ Exercise: Sales: try to get the sum of all apple sales.

✎ Exercise: Sales: try to extract a subset of data that list: Pencil sales in Jan and Binder sales in Apr.

# Subtotal function = subtotal(Function_Num, reference)

✎ The only way to perform mathematical calculations on the subset of the data.

✎ Only performs operations on the visible cells.

- 1 - 11 ignore filtered-out cells, but include manually hidden rows.
- 101 - 111 ignore all hidden cells - filtered out and hidden manually.

| Function_num | | Function | Description |
|---|---|---|---|
| 1 | 101 | AVERAGE | Returns the average of numbers. |
| 2 | 102 | COUNT | Counts cells that contain numeric values. |
| 3 | 103 | COUNTA | Counts non-empty cells. |
| 4 | 104 | MAX | Returns the largest value. |
| 5 | 105 | MIN | Returns the smallest value. |
| 6 | 106 | PRODUCT | Calculates the product of cells. |
| 7 | 107 | STDEV | Returns the standard deviation of a population based on a sample of numbers. |
| 8 | 108 | STDEVP | Returns the standard deviation based on an entire population of numbers. |
| 9 | 109 | SUM | Adds up the numbers. |
| 10 | 110 | VAR | Estimates the variance of a population based on a sample of numbers. |
| 11 | 111 | VARP | Estimates the variance of a population based on an entire population of numbers. |

# Advanced Filter

✏️Procedures:
- Make sure that data has col headings
- Insert blank rows above the data
- Copy the header and build the criterion section
- Run the advanced filter
  - Data → advanced filter

# Vlookup

✏ Lookup value: the item you are searching for. This item must be in the leftmost column of the Table-array

✏ The entire table in which you are searching for the data

✏ Col-index: the column that contained the returned value.

✏ Range-lookup: TRUE for close match and FALSE for approximate match

✏ Note:
- It is most useful when you have no repetitive instances of the Lookup_value
- Col-index must match when you insert more columns

✏ Demo: VLOOKUP-basic: find the title of Peter and Joey in the table

✏ Lookup function is a more flexible function.

# Offset

- ✏ = Offset(Reference, Rows, Cols, Height, Width)
    - Offset returns a reference to a cell that is specified number of rows and cols from a reference cell.
- ✏ 3 mandatory arguments:
    - Anchor from which the offset is based
    - Rows/cols: the number of rows/cols, up or down that you want to move from the reference cell

# Index

✎ Index:

- Index function s can be used to return both the content and the address of the cell



| G2 | ▼ | ⋮ | ✕ ✓ $f_x$ | =INDEX(A2:D6,1,1) | | | | | ⌄ |

|  | A | B | C | D | E | | G | |
|---|---|---|---|---|---|---|---|---|
| 1 | Order ID | Product | Unit Price | Quantity | | INDEX Results | | |
| 2 | 10247 | Apples | $14.00 | 12 | 1 | value at row1, col1 | 10247 | |
| 3 | 10249 | Oranges | $9.80 | 10 | 2 | value at row1, col2 | Apples | |
| 4 | 10250 | Bananas | $34.80 | 5 | 3 | value at row1, col3 | $14.00 | |
| 5 | 10251 | Pears | $18.60 | 9 | 4 | value at row1, col4 | 12 | |
| 6 | 10252 | Grapes | $42.30 | 40 | 5 | value at row2, col1 | 10249 | |
| 7 | | | | | | value at row5, col2 | Grapes | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |

**Row number for intersection**

Sheet1 ⊕

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- Exercise:
  - Fruit Data: calculate the sales amount for the first 10 order
  - On salary sheet, we want to calculate the cumulative salary for a person with start and end month provided.

# Database functions

✎ To know the sum or average of a subset of the data in a large spreadsheet.

- Exercise: Sales: Get the average unit of Jones sales? (using filter and subtotal)
- Exercise: Sales: Get the standard dev of sales unit for cost higher than 20?

✎ Database functions answer these questions without requiring the data to be sorted or filtered.

- Database – range of cells, where your database is
- Field – name or numer of column where values are
- Criteria – your criteria – they should contain name of column and name of some value from that column
- Follow the same procedure as advanced filter

## Database Functions

**DAVERAGE** — Calculates the average of values in a field of a list or database, that satisfy specified conditions

**DCOUNT** — Returns the number of cells containing numbers in a field of a list or database that satisfy specified conditions

**DCOUNTA** — Returns the number of non-blank cells in a field of a list or database, that satisfy specified conditions

**DGET** — Returns a single value from a field of a list or database, that satisfy specified conditions

**DMAX** — Returns the maximum value from a field of a list or database, that satisfy specified conditions

**DMIN** — Returns the minimum value from a field of a list or database, that satisfy specified conditions

# Pivot table

- ✎ Useful for analyzing large, detailed data set
  - Insert a pivot table
  - Fields: row label area, column values area and filter area
- ✎ Sort
- ✎ Filter
- ✎ Summary calculation: Value field settings
- ✎ One dimensional and two dimensional

# Useful tools from Pivot-table

🖉 Sorting Data:
- Select any cell within the data and return the sort tool

🖉 Grouping:
- Data – group
- Ensure that cursor is in the desired column
- Effective on data comprised of dates or numeric values

🖉 Exercise: For sales data, visualize the total sales for each season. (Hint: use grouping)

# Pivot Tables – field settings

✎ The underlying source data in the Values section is summarized as:
- Numeric values as Sum
- Text values as count

✎ Value field settings menu box has the ability to "summarized values by"
- Options include: Sum, Count, Average, Max, Min, Product, Standard Deviation, Variances

✎ "Show value as:"
- Show data using predefined calculation
- %, difference from, running total, Index….

✎ Exercise: For sales data, visualize how many units are sold by each employee.
- For each category, who sale the most? Can we visualize it?

THANKS!