

Using Microsoft Excel for data management and analysis

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Outline

- Advantages and limitations to using Microsoft Excel
- Descriptive statistics
- Common formulas
- Basic charts
- Pivot tables
- Additional resources

Advantages and limitations

- Spreadsheets and workbooks
- Sorting and filtering
- Data types and data validation

Descriptive Statistics

- **Descriptive statistics**: To describe or summarize quantitative features
- **Inferential or inductive statistics**: To derive or predict values
- Mean, median, and mode are each **a measure of central tendency** involving a single variable

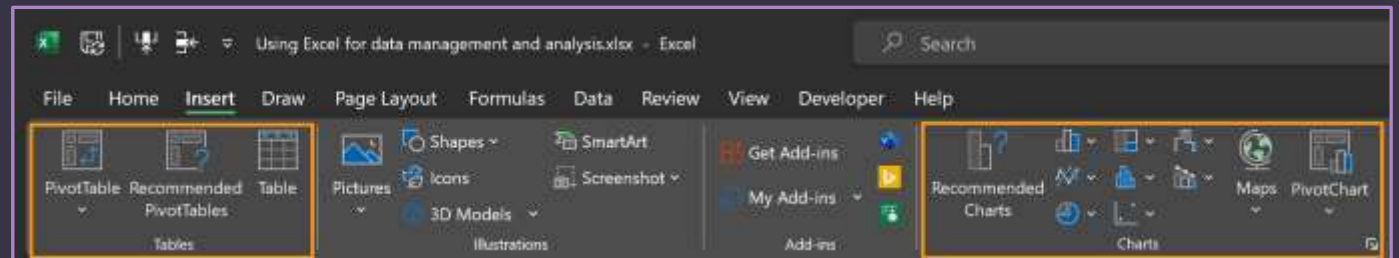
Common Functions

- MEDIAN(number1, [number2], ...)
- MODE.SNGL(number1, [number2], ...)
- MODE.MULT(number1, [number2], ...)
- SUM(number1, [number2], ...)
- COUNT(number1, [number2], ...)
- AVERAGE(number1, [number2], ...)

Ribbon Tabs and Groups

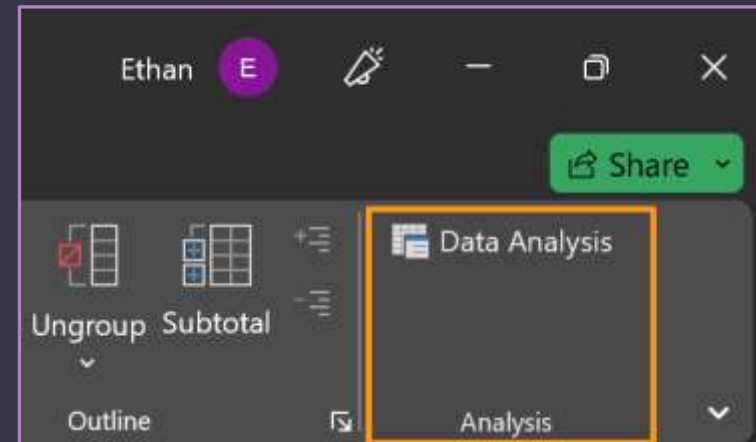
- **Insert**

- Tables
- Charts



- **Data**

- Get & Transform Data
- Data Analysis (ToolPak)



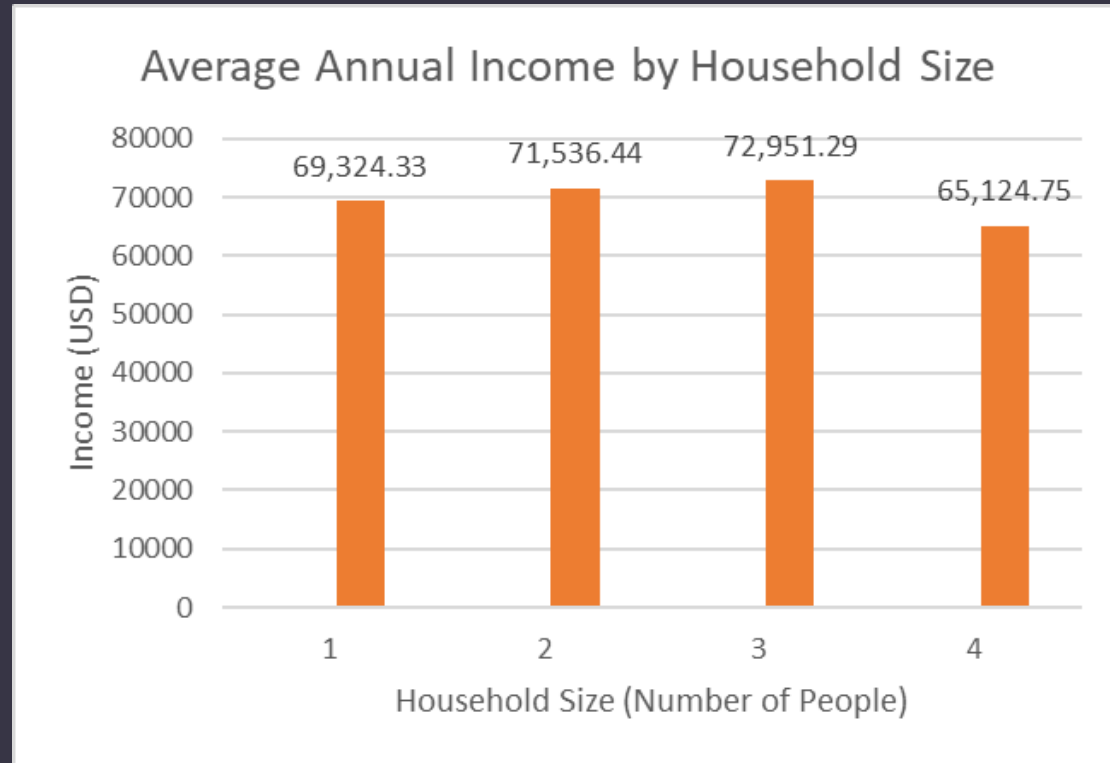
Pivot Tables

- “A PivotTable is an interactive way to quickly summarize large amounts of data. You can use a PivotTable to analyze numerical data in detail, and answer unanticipated questions about your data.” ([Overview of PivotTables and PivotCharts](#))

	A	B	C	D
1	Row Labels ▼	Min of Annual Income	Average of Annual Income	Max of Annual Income
2	1	60386	69324.33	80446
3	2	60821	71536.44	79675
4	3	64773	72951.29	81323
5	4	61744	65124.75	73064
6	Grand Total	60386	70420.46	81323

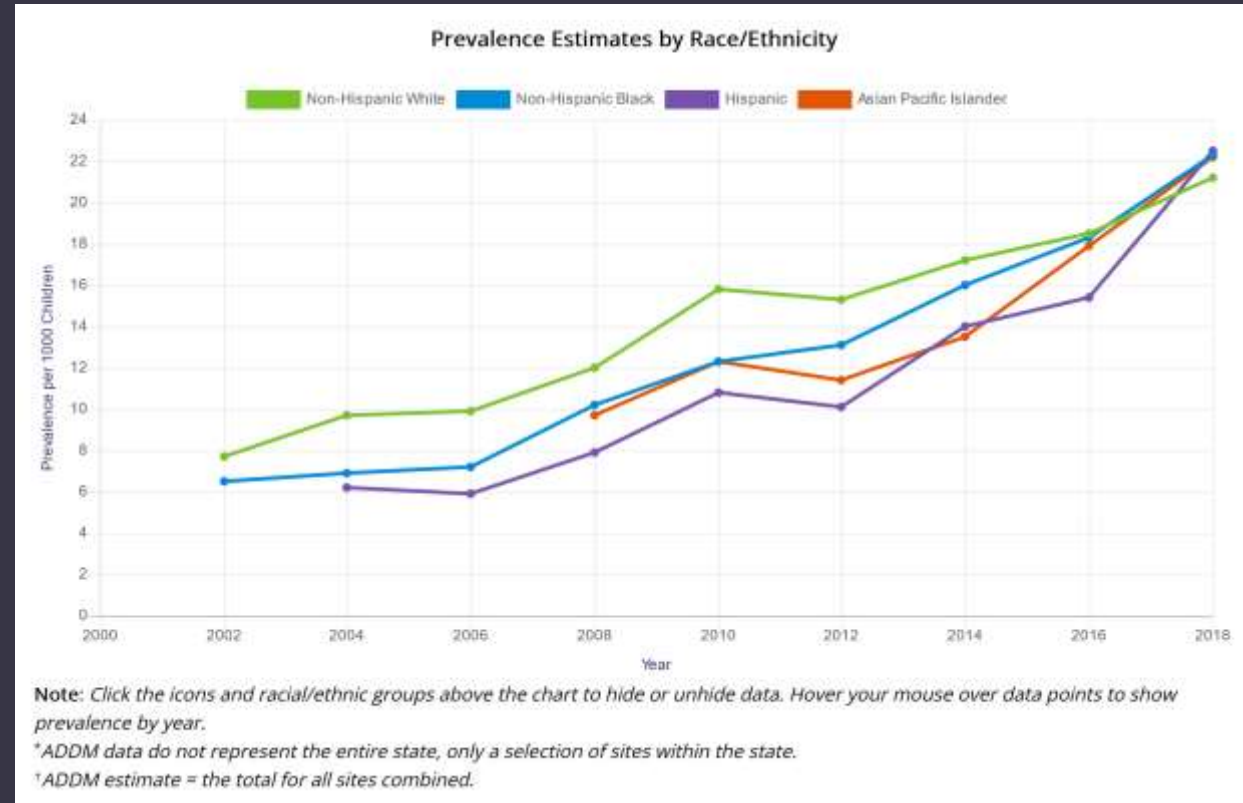
Overview of Simple Charts

- Bar or column chart
- Line chart
- Pie chart



Overview of Simple Charts

- Bar or column chart
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- Pie chart



Centers for Disease Control and Prevention. (2021). Autism data visualization tool. <https://www.cdc.gov/ncbddd/autism/data/index.html>

Overview of Simple Charts

- Bar or column chart
- Line chart
- Pie chart



U.S. Department of the Treasury. (n.d.). Spending explorer.

<https://www.usaspending.gov/explorer/agency>

Simple Charts in Excel

- Hovering will display a tooltip describing a chart's general use

Additional Resources

- [LibreOffice Calc](#) and [functions by category](#)
- [Microsoft](#)
- **Saylor Academy:** [Spreadsheets](#), [Spreadsheets II](#), [Spreadsheets III](#)