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data science
student society

JMP/Excel Workshop

Consulting Subcommittee

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Table of Contents

- 1) Background
- 2) Applications & Workflow
- 3) Engagement Activity
- 4) Q&A



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[01] Background



Excel for Data Analysis

- Can be used to examine data and perform simple and basic data analysis
- Convenient for data entry
- Here are some useful methods for data analysis:
 - Charts
 - Ranges
 - Conditional formatting
 - Sorting and filtering
 - Data validation
 - Formula auditing
 - Pivot tables

1. Background

2. Life Cycle
Stages

3. Engagement
Activity

4. Q&A

Source:

<https://www.analyticsvidhya.com/blog/2021/11/a-comprehensive-guide-on-microsoft-excel-for-data>



What is JMP?

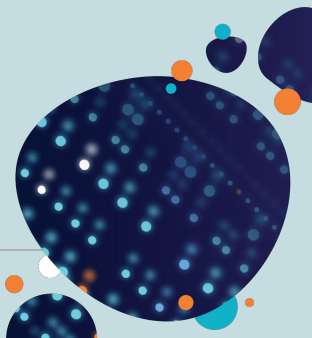
- A statistical software that can perform data preparation, analysis, and graphing
- Simple to use because there is no code required
- What can you do with JMP?
 - Data cleaning, data summary, data visualization, Statistical analysis, machine learning...
- Link to the tutorial videos provided on the JMP website:
https://www.jmp.com/en_dk/academic/course-materials/analytics.html#m-stepbystep

1. Background

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[02] Applications / Workflow



JMP Analytic Workflow

The JMP Analytic Workflow

Your singular platform for data access, analysis and sharing

Data

- Files
- Docs
- Webpages
- Databases
- Web APIs
- Cloud Sources
- Open Source Languages
- 3rd Party Files

Analytic Capabilities



Insights

- JMP Live
- HTML
- Business Docs
- Images



Data Access

- Easy to access data from a variety of sources
 - i.e. Excel, files, databases, APIs, R, python, etc.
- When data is imported into JMP, they are already formatted and ready to visualize and analyze

1. Background

2. Applications &
Workflow

3. Engagement
Activity

4. Q&A



Data Cleanup

- We can perform various data cleaning tasks using JMP, such as:
 - Shaping tables
 - Merging data
 - Anomaly detection
 - Dealing with missing data

1. Background

2. Applications &
Workflow

3. Engagement
Activity

4. Q&A



Data Exploration & Visualization

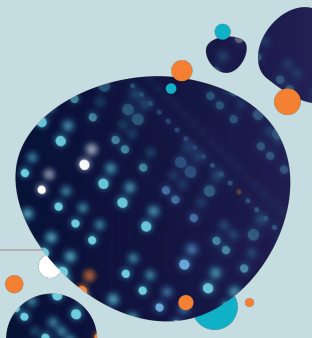
- Graphing
 - Histograms, box plot, tree map, and many more
- Data Summary
 - Finding mean, median, frequency, variance, etc.
- Filtering (subgrouping)
- Dashboards
- Explore texts
 - Word cloud, etc.

1. Background

2. Applications & Workflow

3. Engagement Activity

4. Q&A





Analysis

- What can we do with JMP?
 - One way & two-way ANOVA (analysis of variance)
 - Correlation
 - simple/multiple linear/logistic regression
 - Bootstrapping
 - Clustering
 - classification trees
 - regression trees
 - k nearest neighbors
 - ...and many more

1. Background

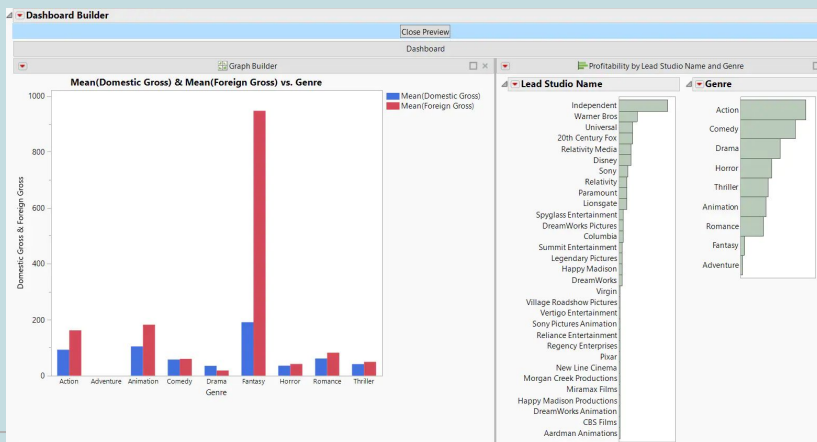
2. Applications &
Workflow

3. Engagement
Activity

4. Q&A

Sharing and Communicating pt.1

- JMP Live
 - A cloud location to store and share your reports and data with other JMP users
- Interactive HTML
 - Sharing reports and data with non-JMP users
- Dashboard





Sharing and Communicating pt.2

- JMP Journals
 - 1. Static presentation
 - Embeds the output of one or more JMP reports
 - Looks similar to when we save output to a PDF
 - No data table; points cannot be selected or changed
 - 2. Dynamic presentation
 - Looks like an outline with texts and buttons that reveal / hide certain reports and data tables of your choice
 - “Dynamic”: those reports and tables can be changed or updated
- Workflow builder
 - Documents actions throughout the preparation and analysis workflows



Summary

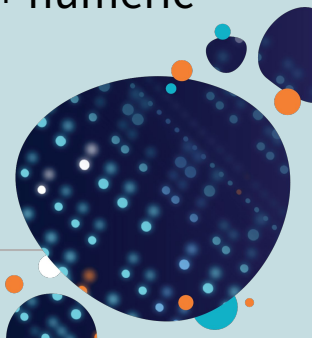
- Similarities
 - Both are powerful tools in performing basic data analysis
 - Both are useful data visualization tools (can be used to plot graphs and charts)
- Differences
 - Structure
 - JMP - data tables
 - A cell is defined based on its column (one specific variable)
 - Excel - spreadsheet
 - You can enter any type of data (mixed character + numeric data) into a cell

1. Background

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[03] Engagement Activity

[UCSD Enterprise Software Licensing](#)



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[04] Q&A

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Thank you!