

# ENTRY-LEVEL SAS: WORKING WITH EXCEL

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# EXCEL IS EVERYWHERE

## WHY?

- You can work with the data, and visually represent it
- Highly customizable visualization of data (colour, shading, emphasis)
- Some statistical capabilities which can help illustrate trends or points of interest
- Allows for data merges – bringing different data sources together, including images
- Pervasive – accessible through laptops, desktops, phones, tablets....

# SOUND FAMILIAR?



The screenshot shows the SAS software interface. The main window displays a log with several error messages:

```
NOTE: Unable to open SASUSER.REGISTRY. WORK.REGISTRY will be opened instead.
NOTE: All registry changes will be lost at the end of the session.
WARNING: Unable to copy SASUSER registry to WORK registry. Because of this,
WARNING: you will not see registry customizations during this session.
NOTE: Unable to open SASUSER.PROFILE. WORK.PROFILE will be opened instead.
NOTE: All profile changes will be lost at the end of the session.
NOTE: This SAS session is using a registry in WORK. All changes will be lost at the end of this
session.
```

Below the log, a data table titled "MY2014 Fuel Consumption Ratings.csv" is displayed. The table has the following columns: YEAR, MAKE, MANUFACTURER, MODEL, VEHICLE CLASS, ENGINE SIZE, CYLINDERS, TRANSMISSION, FUEL, FUEL CONSUMPTION, CO2 EMISSIONS. The data includes various car models from 2014, such as ACURA, HONDA, and ASTON MARTIN.

YEAR	MAKE	MANUFACTURER	MODEL	VEHICLE CLASS	ENGINE SIZE	CYLINDERS	TRANSMISSION	FUEL	FUEL CONSUMPTION	CO2 EMISSIONS		
2014	ACURA	ILX	COMPACT	2.0	4	4	8	6.5	29.50	1460.146		
2014	ACURA	ILX	COMPACT	2.4	4	4	8	6.5	29.43	1460.191		
2014	ACURA	ILX	HYBRID	COMPACT	1.5	4	AVT	2	5.0	4.3	56.59	990.113
2014	ACURA	MDX	4WD SUV	SMALL	3.5	6	AS6	2	11.7	7.29	37.195	211
2014	ACURA	MDX	4WD SUV	SMALL	3.5	6	AS6	2	10.7	7.3	26.39	1840.212
2014	ACURA	MDX	MID-SIZE	3.5	6	AS6	2	10.3	6.27	44.170	198	
2014	ACURA	TL	MID-SIZE	3.5	4	AS6	2	10.4	6.27	42.176	202	
2014	ACURA	TL	MID-SIZE	3.7	4	AS6	2	11.4	7.4	29.37	1940.223	
2014	ACURA	TL	MID-SIZE	3.7	6	AS6	2	11.9	8.0	24.35	2045.235	
2014	ACURA	TLX	COMPACT	2.4	4	AS5	2	9.3	6.2	30.46	1380.182	
2014	ACURA	TLX	COMPACT	2.4	4	AS6	2	9.9	6.8	29.42	1700.196	
2014	ACURA	TLX	COMPACT	3.5	4	AS5	2	10.7	7.0	26.40	1800.207	
2014	ASTON	MARTIN	DB9	SUBCOMPACT	5.9	12	AM	2	16.2	10.7	17.26	2740.315
2014	ASTON	MARTIN	RAPIDE	SUBCOMPACT	5.9	12	AM	2	16.2	10.7	17.26	2740.315

## THE QUESTION

- How can Excel users access the power of SAS analytics within their more familiar environment?

## THE ANSWER

- SAS Office Analytics

Task	Microsoft Excel	Microsoft Outlook	Microsoft Word	Microsoft PowerPoint
Open Web Report Studio Reports	Yes	Yes	Yes	Yes
Open OLAP Cubes	Yes	Yes & No*		
Open Information Maps	Yes			
View BI Dashboards	Yes	Yes & No*		
Run SAS Stored Processes	Yes	Yes	Yes	Yes
Access SAS Datasets	Yes		Yes**	Yes**
Update SAS Datasets	Yes			
Open SAS Visual Analytics Designer Reports	Yes	Yes	Yes	Yes

\*There was a previous experimental feature in version 9.2.  
 \*\*You can build reports from them.

## A CAVEAT

- This is a very, very introductory talk
- Many of the most powerful elements require metadata/server-based data...  
this talk won't feature demos of those features ☹️

# AGENDA

- Walkthrough of Ribbon Functionality
- Introduce & Import Data
- Some SAS Analysis: Characterizing the Data
- Some Visual Analysis: Basic Graphing
- Reporting: How It Works In A Server-Based Environment
- The Magic of Custom Prompts/Stored Processes



# THE RIBBON



Book2 - Excel

- FILE
- HOME
- INSERT
- PAGE LAYOUT
- FORMULAS
- DATA
- REVIEW
- VIEW
- DEVELOPER
- SAS

SAS Data	Tasks	Reports	Quick Start	SAS Favorites	Refresh	Modify	Properties	Manage Content	Tools	Help
	Insert				Selection				Tools	

A1 :





# INTRODUCTION TO THE DATA



Government of Canada

Gouvernement du Canada

Canada.gc.ca | Services | Departments | Français

data.gc.ca



Canada

About data.gc.ca ▾ Open Data ▾ Open Government ▾ Participate ▾ Login

Home > Open Data > Search Data

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## Fuel Consumption Ratings

A yearly data set of all passenger vehicles sold in Canada based on their fuel-consumption ratings, estimated carbon-dioxide emissions and annual fuel costs.

### Licence:

[Open Government Licence - Canada](#)

### Dataset Resources

Resource Name	Format	Language	Link
1995-1999 - Fuel Consumption Ratings	CSV	English	<a href="#">Download</a>
1995-1999 - Fuel Consumption Ratings	CSV	French	<a href="#">Download</a>
2000 - Fuel Consumption Ratings	CSV	English	<a href="#">Download</a>

### Have your say



Rate this dataset

4 Comment(s)

About this Dataset [RSS Feed](#)

### Publisher:

Natural Resources Canada

### Tags:

Energy Efficiency Cars Light Trucks

Buying Fuel Consumption fuel economy

### Subject:

Science and Technology

Economics and Industry

# IMPORTING THE DATA

- Brought into Enterprise Guide

## QUESTION

- What can we learn about fuel consumption on Canadian roads last year?

# DATA CHARACTERIZATION



Insert

- Task Gallery
- ANOVA
  - Capability
  - Control Charts
  - Data
  - Data Mining
  - Describe
  - Graph
  - Multivariate
  - Pareto
  - Regression
  - Survival Analysis
  - Time Series
  - Task Templates
- Characterize Data...  
Distribution Analysis...  
List Data...  
List Report Wizard...  
One-Way Frequencies...  
Summary Statistics...  
Summary Statistics Wizard...  
Summary Tables...  
Summary Tables Wizard...  
Table Analysis...

Choose Data

Input Data

Excel Data:  
A1:11068

SAS Data in Excel:  
C:\Users\canmvm\Desktop\SAS Office Analytics\SAS Dataset\

External SAS Data:  
C:\Users\canmvm\Desktop\SAS Office Ar Browse...  
Filter & Sort...

Details

Location for Results

New worksheet: Characterize Data

Existing worksheet:

New workbook

OK Cancel Help

# HOW ABOUT VISUALIZATION?

- The 'Task Gallery' helps a novice user select an appropriate representation
- Launches directly from the gallery
- 80+ tasks from a variety of categories

## SAS Add-In for Microsoft Office

### TASK GALLERY

Search tasks

Show categories

All None Icon ▾



80 tasks

Medium ▾

## REPORTING

- Leveraging the power of metadata and SAS, we can simply update our data 'on the fly' as required
- This allows for simple refreshes of presentations, monthly reports, dashboards, etc.
- Scheduling function

With Office Analytics, share across Office platform (email, Powerpoint, Word, etc.)

## CUSTOM PROMPTS

- Build prompts in Enterprise Guide
- Host in shared environment on server
- A single stored process could hold many custom prompts, and they could be dependent (i.e. sensitive to previous selections)
- Allows for flexible access and total autonomous use of a shared data environment (multiple users, multiple users, minimal upkeep)
- Different filters, same table
- **HOWEVER**, be mindful of writing over data!



## IN SUMMARY

- SAS works with Excel as an easy bridge into complex analytical and reporting processes
- Leveraging the power of SAS in a familiar framework has never been easier

## EXTRA RESOURCES

- [‘Moving Beyond Spreadsheets’](#) White Paper
- SAS Office Analytics [Demos](#)
- [SAS Canada Community](#) (Coming Soon)
  - Video Interview
  - Blogs
  - Discussion Group
  - Live chat session?

# QUESTIONS?

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