

DEPARTMENT OF INFORMATION TECHNOLOGY



Subject : Data Analytics Lab

Name : Jeenal Mehta

UID : 2019140039

Experiment Number : 2

Aim: : Understanding and learning SAS Studio

Introduction:



SAS Studio a web browser-based interface for SAS programmers that also suits the needs of novice users by providing an assistive framework. SAS Studio lets you work with the same SAS server from your desk, your laptop at home or wherever you have a browser and a connection.

Using SAS we can access data files, libraries and existing programs – or write new ones – with this developmental web application accessible through your browser. With SAS Studio, we can use predefined tasks to generate SAS code. When we run a program or task, the technology processes the SAS code on a SAS server, which can be a server in a cloud environment, in your local environment, or SAS installed on our local machine. After the code is processed, the results are returned to SAS Studio in your browser.

In addition to writing and running your own SAS programs, you can use the predefined tasks that are included with SAS Studio to analyze your data. The tasks are based on SAS procedures and provide access to some of the most commonly used graph and analytical procedures. You can also use the default task template to write your own tasks.

Implementation:

- Data used
 - File name: HT_2013-2020
 - CSV file containing the state-wise Hate Crime (specifically Human Trafficking) Statistics of USA from year 2013 to 2020
 - Other important parameters of the data are Sub-category, Total cases and Fake cases



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HT_2013-2020 (1) - Excel (Product Activation Failed)

FILE

HOME

INSERT

PAGE LAYOUT

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Editing

MSA counties 100,000 or over

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	DATA_1	ORI	PUB_A	PUB_A	AGENC	STATE	STATE	DIVISIO	COUNTY	REGION	POPUL	POPUL	OFFENS	OFFENS	OFFENS	ACTUAL	UNFOU	CLEAR	JUVENI	CLEARED_COUN	
2	2016	MO04806	Independence	City	MO	Missouri	West Norl	JACKSON	Midwest		2	Cities fror	81	Human Tri	Commerci	2	0	2	0	0	
3	2016	TX220120	Fort Worth	City	TX	Texas	West Sout	PARKER; C	South		1B	Cities fror	82	Human Tri	Involunta	1	0	0	0	0	
4	2016	TX227010	Austin	City	TX	Texas	West Sout	WILLIAMS	South		1B	Cities fror	82	Human Tri	Involunta	2	0	0	0	0	
5	2019	NV002010	Las Vegas Metropoli	City	NV	Nevada	Mountain	CLARK	West		1A	Cities 1,00	81	Human Tri	Commerci	15	0	4	0	0	
6	2017	AZ007050	Chandler	City	AZ	Arizona	Mountain	MARICOP	West		2	Cities fror	81	Human Tri	Commerci	1	0	0	0	0	
7	2018	ND009020	Fargo	City	ND	North Dak	West Norl	CASS	Midwest		2	Cities fror	81	Human Tri	Commerci	1	0	0	0	0	
8	2020	GA038010	Newnan	City	GA	Georgia	South Atl	COWETA	South		4	Cities fror	81	Human Tri	Commerci	1	0	1	0	0	
9	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	2	0	0	0	0	
10	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	82	Human Tri	Involunta	1	0	0	0	0	
11	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	2	0	1	0	0	
12	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	5	0	0	0	0	
13	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	82	Human Tri	Involunta	1	0	0	0	0	
14	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	1	0	0	0	0	
15	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	1	0	1	0	0	
16	2020	GA044020	DeKalb County Polic	County	GA	Georgia	South Atl	DEKALB	South		9A	MSA coun	81	Human Tri	Commerci	2	0	0	0	0	
17	2017	AZ007170	Mesa	City	AZ	Arizona	Mountain	MARICOP	West		1C	Cities fror	81	Human Tri	Commerci	1	0	0	0	0	
18	2017	LA026000	Jefferson	County	LA	Louisiana	West Sout	JEFFERSON	South		9A	MSA coun	81	Human Tri	Commerci	3	0	3	0	0	
19	2020	GA099000	Meriwether	County	GA	Georgia	South Atl	MERIWET	South		9C	MSA coun	81	Human Tri	Commerci	1	0	0	0	0	
20	2018	LA026000	Jefferson	County	LA	Louisiana	West Sout	JEFFERSON	South		9A	MSA coun	81	Human Tri	Commerci	4	0	2	0	0	
21	2020	GA106190	Muscogee County Sc	Other	GA	Georgia	South Atl	MUSCOGEE	South		9D	MSA coun	81	Human Tri	Commerci	4	0	0	0	0	
22	2020	GA106190	Muscogee County Sc	Other	GA	Georgia	South Atl	MUSCOGEE	South		9D	MSA coun	81	Human Tri	Commerci	3	0	0	0	0	
23	2020	GA010010	Nashville	City	GA	Georgia	South Atl	BERRIEN	South		6	Cities fror	81	Human Tri	Commerci	1	0	0	0	0	
24	2020	GA099000	Meriwether	County	GA	Georgia	South Atl	MERIWET	South		9C	MSA coun	81	Human Tri	Commerci	1	0	0	0	0	

HT_2013-2020

READY

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- Input file information

SAS® Studio

Server Files and Folders

- odaws02-apse1-2
 - Folder Shortcuts
 - Files (Home)
 - sasuser.v94
 - HT_2013-2020.ctl
 - HT_2013-2020.xlsx

Tasks and Utilities

Snippets

Libraries

File Shortcuts

HT_2013-2020.ctl

Settings | Code/Results | Split

Log | Code

FILE INFORMATION

SOURCE FILE

File name: HT_2013-2020.xlsx

Source location: /home/u62272461

Worksheet name: First worksheet

OUTPUT DATA

SAS server: SASApp

Data set name: IMPORT

Library: WORK

Change

OPTIONS

File type: DEFAULT (Based on file extension)

☒ Generate SAS variable names

CODE | LOG | RESULTS

Messages User: u62272461



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- Import file

Code:

```
/* Generated Code (IMPORT) */  
/* Source File: HT_2013-2020.xlsx */  
/* Source Path: /home/u62272461 */  
/* Code generated on: 11/3/22, 3:15 PM */
```

```
%web_drop_table(WORK.IMPORT1);
```

```
FILENAME REFFILE '/home/u62272461/HT_2013-2020.xlsx';
```

```
PROC IMPORT DATAFILE=REFFILE
```

```
    DBMS=XLSX
```

```
    OUT=WORK.IMPORT1;
```

```
    GETNAMES=YES;
```

```
RUN;
```

```
PROC CONTENTS DATA=WORK.IMPORT1; RUN;
```

```
%web_open_table(WORK.IMPORT1);
```



```
CODE    LOG    RESULTS
1  /* Generated Code (IMPORT) */
2  /* Source File: HT_2013-2020.xlsx */
3  /* Source Path: /home/u62272461 */
4  /* Code generated on: 11/3/22, 3:15 PM */
5
6  %web_drop_table(WORK.IMPORT1);
7
8
9  FILENAME REFFILE '/home/u62272461/HT_2013-2020.xlsx';
10
11 PROC IMPORT DATAFILE=REFFILE
12     DBMS=XLSX
13     OUT=WORK.IMPORT1;
14     GETNAMES=YES;
15 RUN;
16
17 PROC CONTENTS DATA=WORK.IMPORT1; RUN;
18
19
20 %web_open_table(WORK.IMPORT1);
```

Result:



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CODELOGRESULTSOUTPUT DATA

Table: WORK.IMPORTView: Column namesFilter: (none)

Columns

Select all

DATA_YEAR

ORI

PUB_AGENCY_NAME

PUB_AGENCY_UNIT

AGENCY_TYPE_NAME

STATE_ABBR

Property	Value
Label	
Name	
Length	
Type	

Total rows: 4417Total columns: 19

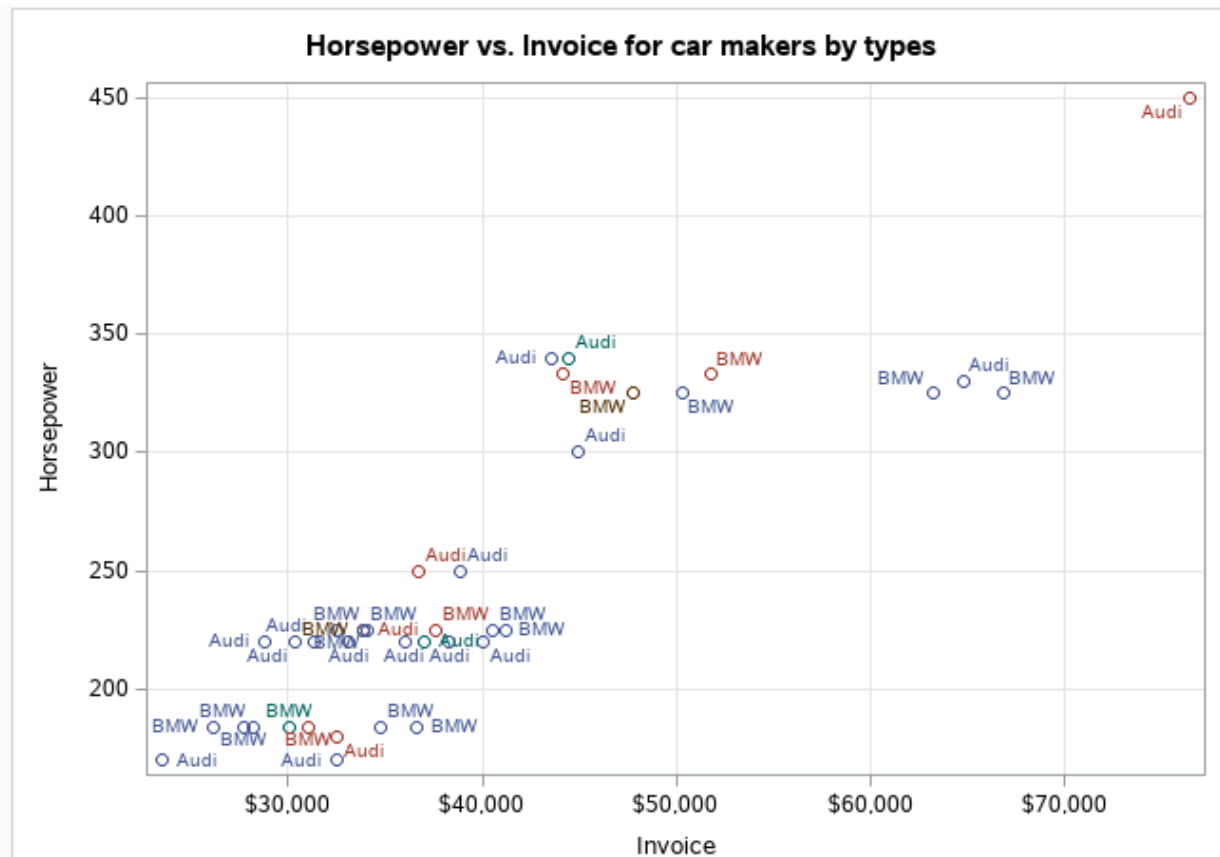
	DATA_YEAR	ORI	PUB_AGENCY_NAME
1	2016	MO048060	Independence
2	2016	TX2201200	Fort Worth
3	2016	TX2270100	Austin
4	2019	NV0020100	Las Vegas Metropolitan Police Department
5	2017	AZ0070500	Chandler
6	2018	ND0090200	Fargo
7	2020	GA0380100	Newnan
8	2020	GA0440200	DeKalb County Police Department
9	2020	GA0440200	DeKalb County Police Department
10	2020	GA0440200	DeKalb County Police Department
11	2020	GA0440200	DeKalb County Police Department
12	2020	GA0440200	DeKalb County Police Department

Messages: 1User: u62272461

- Plotting scatter plot of horsepower vs make using the “CARS” dataset that is readily available in SAS Studio for implementation



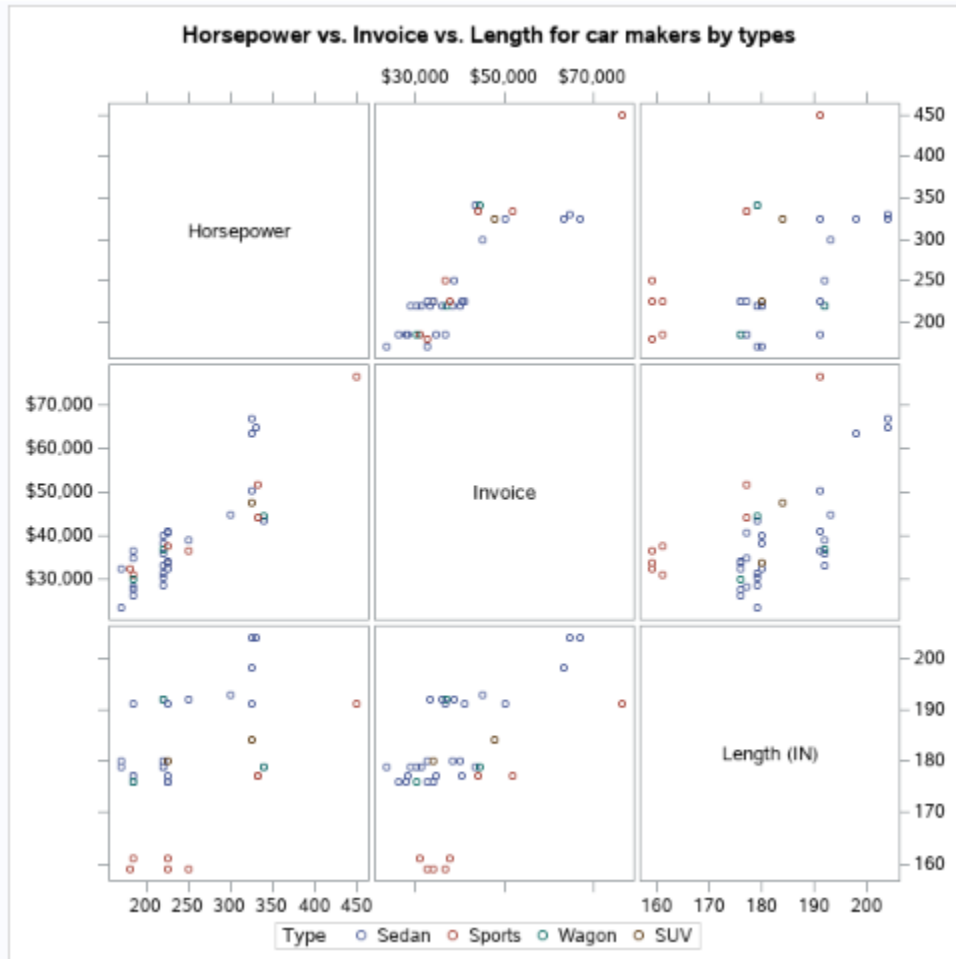
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- Plotting a scatter matrix



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Code:

```
/* scatter plot */  
PROC SQL;  
create table CARS1 as  
SELECT make, model, type, invoice, horsepower, length, weight  
FROM  
SASHELP.CARS  
WHERE make in ('Audi','BMW')  
;
```




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RUN;

```
TITLE 'Scatterplot - Two Variables';  
PROC sgscatter DATA = CARS1;  
  PLOT horsepower*Invoice  
  / datalabel = make group = type grid;  
  title 'Horsepower vs. Invoice for car makers by types';  
RUN;
```

```
/* scatter matrix */  
PROC sgscatter DATA = CARS1;  
  matrix horsepower invoice length  
  / group = type;  
  
  title 'Horsepower vs. Invoice vs. Length for car makers by types';  
RUN;
```