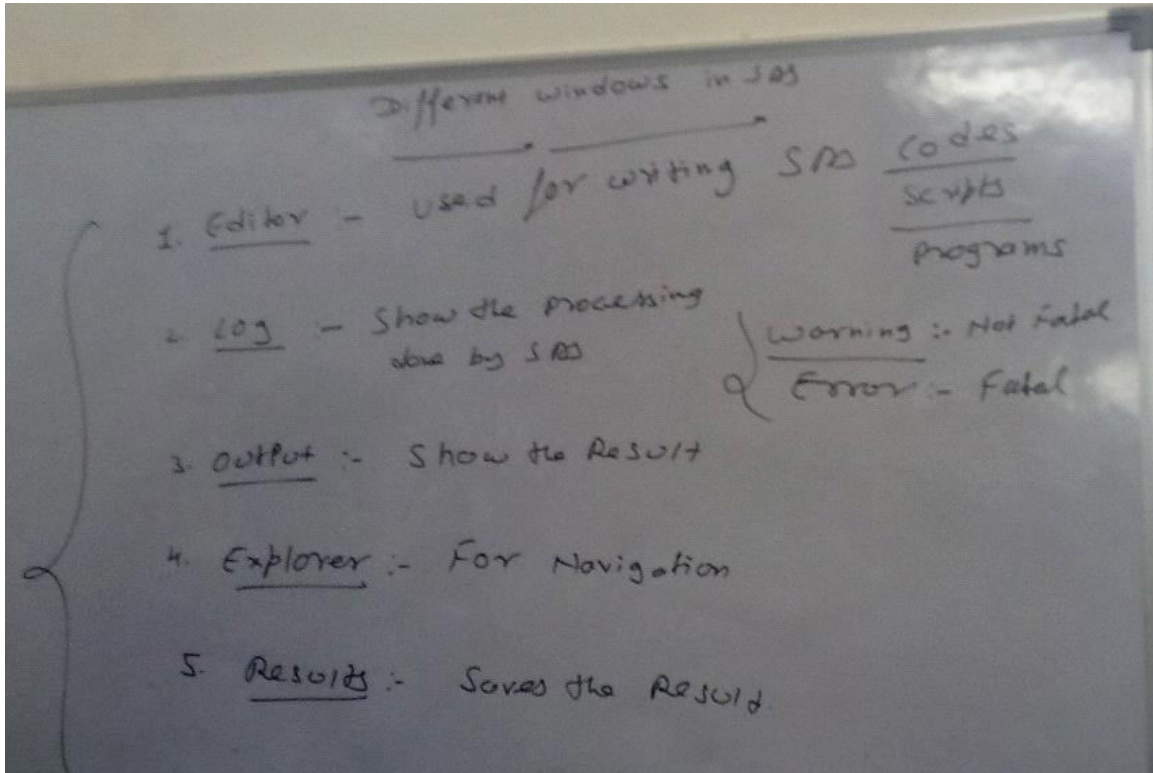


Dated: 04/02/2018

Statistical Analysis System (SAS v9.4): Class 1

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Different windows in SAS:

SAS has 5 windows, namely:

1. Editor : This window is used for writing SAS Codes / Scripts / Programs.

2. Log : It shows the processing done by SAS on a written code. It would give warning / error with the program.

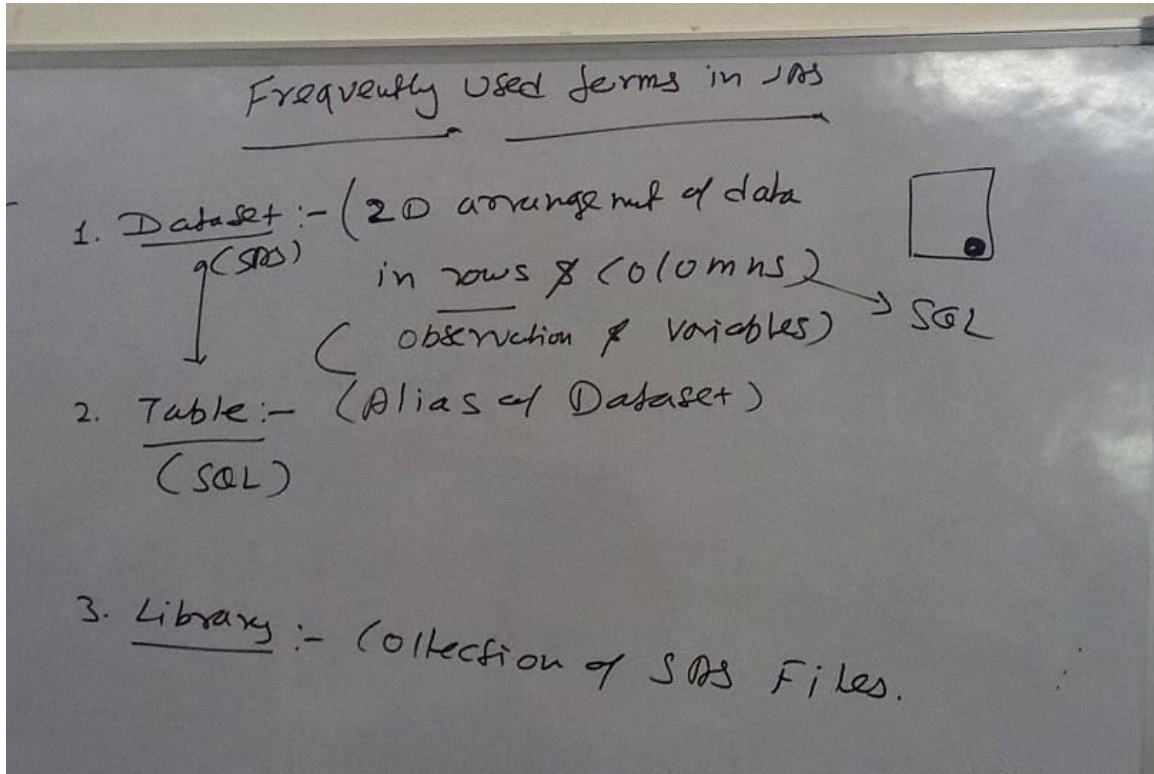
- A warning is not fatal (code gets executed).
- An error is fatal (code doesn't get executed).
- If there is any error encountered, changes will be done in the editor window in the written code.

3. Output : This window displays results

4. Explorer : This is for navigation. SAS has a built-in window for navigation or ease of access.

5. Results : This saves the result unlike the output window which just displays result. It can even

save results from multiple programs.



Frequently used terms in SAS / SAS terminology:

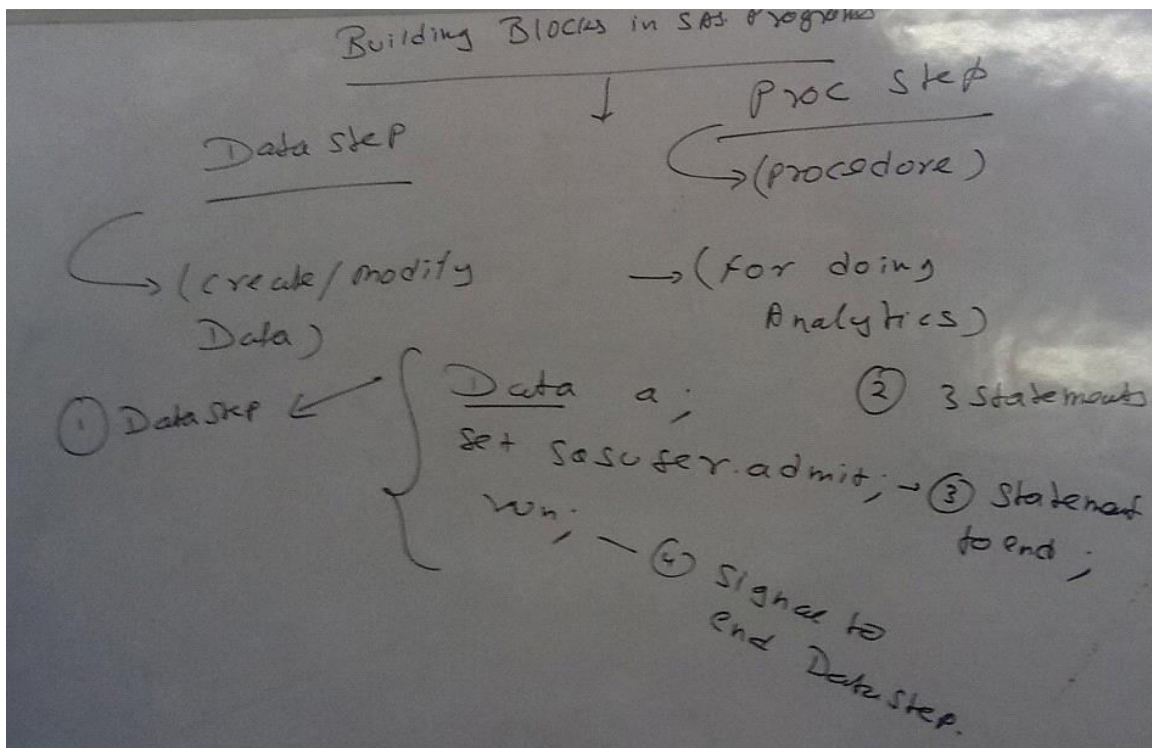
1. Dataset: It's a 2D arrangement of data in Observations & Variables (rows & columns)

2. Table: Alias of dataset, dataset and table are the same thing (Dataset is the term in SAS, Table is the term in SQL).

3. Library: SAS does not have a concept of database, it has a collection of SAS compatible files called library. The two types of SAS compatible files are :

- Dataset
- View

Note : SAS can import / export other files types to SAS compatible files

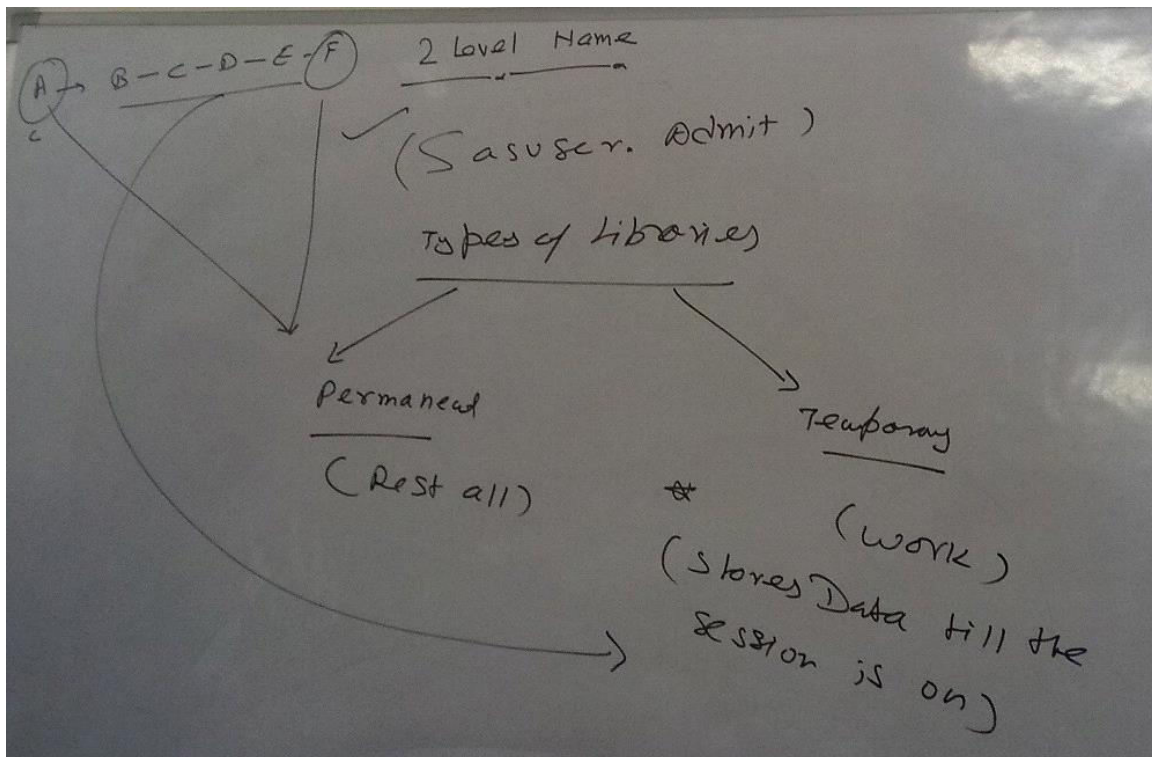


Building blocks in SAS programs:

The basic constituents or components of SAS and it has just two building blocks:

1. **Data Step** : A Data Step is used to create or modify data. Data Step code starts with keyword Data.
2. **Proc Step** : Proc stands for a predefined procedure. inbuilt in SAS used for doing analytics. Proc Step code starts with keyword Proc.

example: Proc Sort, used for sorting given data



Two level name is formed of [library name.data set name]

example : sasuser.admit

library name : sasuser

dataset name : admit

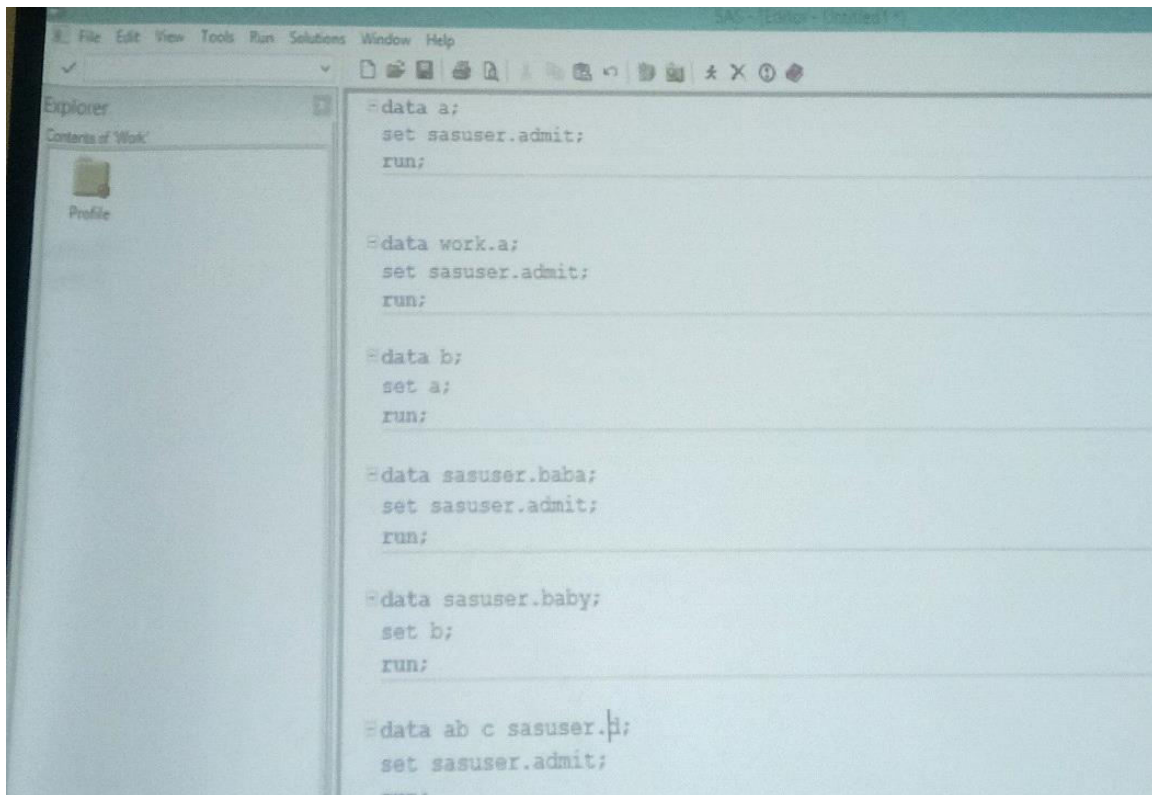
Note : A library can not have a same name for two dataset, in the similar manner a dataset can not have same name for more than one variable under it.

Types of Libraries:

A library saves the datasets

Temporary Library : There is only one library which is temporary called **Work**. It stores data till the session is running and vanishes once the session is closed. If no library is defined it will be by default the temporary library (Work)

Permanent Library : Other than Work, every other library is permanent library.



Basic SAS program / code

Code 1

```
data a;                \\ Statement 1
set sasuser.admit;     \\ Statement 2
run;                   \\ Statement 3
```

Result: Copies code from data set **admit** of **permanent library - sasuser** to data set **a** in **temporary library - work (by default)**

Points to remember:

- **Statement 1**, starting with **data** therefore is a **Data Step**, if starting with **Proc** will be a **Proc Step**.
- **Statement 1**, has "a", **1-level name**, stored in temporary library - **work** by default since no library name used.
- **Statement 2**, has "sasuser.admit", **2-level name**, library name: sasuser & data set name: admit
- **Statement 2**, 2-level name, **Set** keyword makes a copy of **admit** dataset from **sasuser** library

into dataset **a** which is stored in **work** library.

- **Statement 3,** end of data step
- Every statement ends with a semi colon.
- "Run;" implies end of datastep in SAS. It will be the last statement.

Code 2

```
data work.a;  
  
set sasuser.admit;  
  
run;
```

Result: Copies code from data set **admit** of **permanent library - sasuser** to data set **a** in **temporary library - work (defined)**

Code 3

```
data b;  
  
set a;  
  
run;
```

Result: Copies code from data set "**a**" of **temporary library - work (by default, not defined here)** to data set "**b**" in **temporary library - work (by default)**

Code 4

```
data sasuser.baba;  
  
set sasuser.admit;  
  
run;
```

Result: Copies code from data set **admit** of **permanent library - sasuser (defined)** to data set **baba** in

permanent library - sasuser (defined)

Code 5

```
data sasuser.baby;
```

```
set b;
```

```
run;
```

Result: Copies code from data set **"b"** of **temporary library - work (by default, not defined here)** to data set **baby** in **permanent library - sasuser (defined)**

Code 6

```
data ab c sasuser.d;
```

```
set sasuser.admit;
```

```
run;
```

Result: Copies code from data set **admit** of **permanent library - sasuser (defined here)** to multiple datasets: data set **ab**, data set **c** in **temporary library - work (by default, not defined)** & data set **d** in **permanent library - sasuser (defined)**.