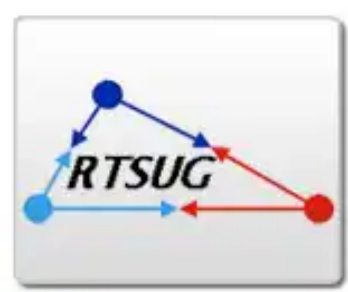# If its not broke, don't fix it; existing code and the programmers' dilemma

Jay Iyengar, Data Systems Consultants LLC
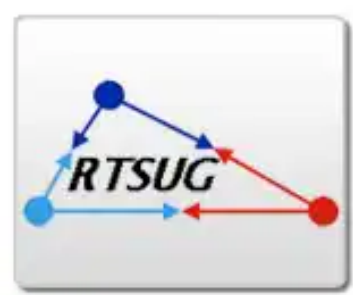
Research Triangle SAS Users Group

July 17, 2025

Introduction

- Contractors and Consultants work with Existing Code.

- SAS Programmer plays the role of a firefighter or a troubleshooter.

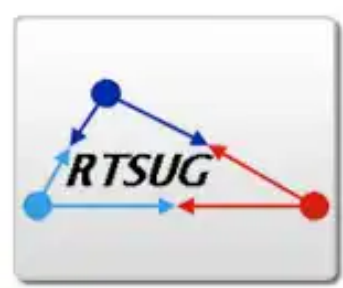- Full-time employees develop code from scratch

The process of revising code

- With Legacy code, task is to understand it.

- Good documentation aids in understanding the code.

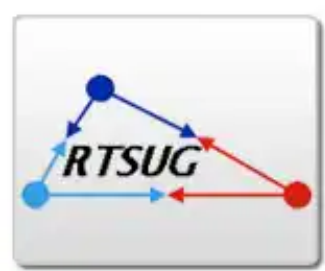- Readability assists in understanding the flow of the program.

Find the developer who wrote the code


'Find the Programmer'

Find the developer who wrote the code

- If provided, use the Program Header to locate the Author of the Code.

- No guarantee developer still works for the company.

```
/************************************/
/* Name: GET_CASE_MASTER.SAS        */
/* Date: 08/12/22                   */
/* Authors: JI                      */
/*                                  */
/*--------------------------------- */
/* Maintained By: JI                */
/*--------------------------------- */
/* Purpose:                         */
/*                                  */
/* Downloads Case Master file from  */
/* AWS bucket into a text file      */
/*                                  */
/* Imports text file and converts   */
/* to permanent SAS data set        */
/*                                  */
/* Excludes records from            */
/* SAS data set.                    */
/*                                  */
/*--------------------------------- */
/* Input Files: AWS Text File       */
/*--------------------------------- */
```
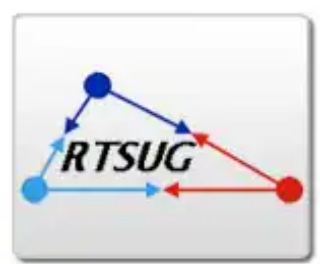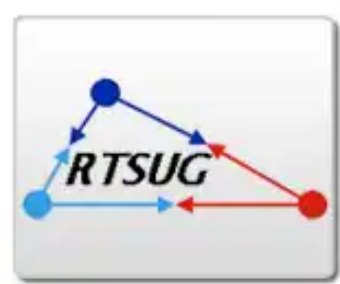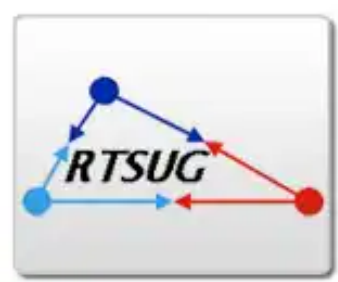
Format the code
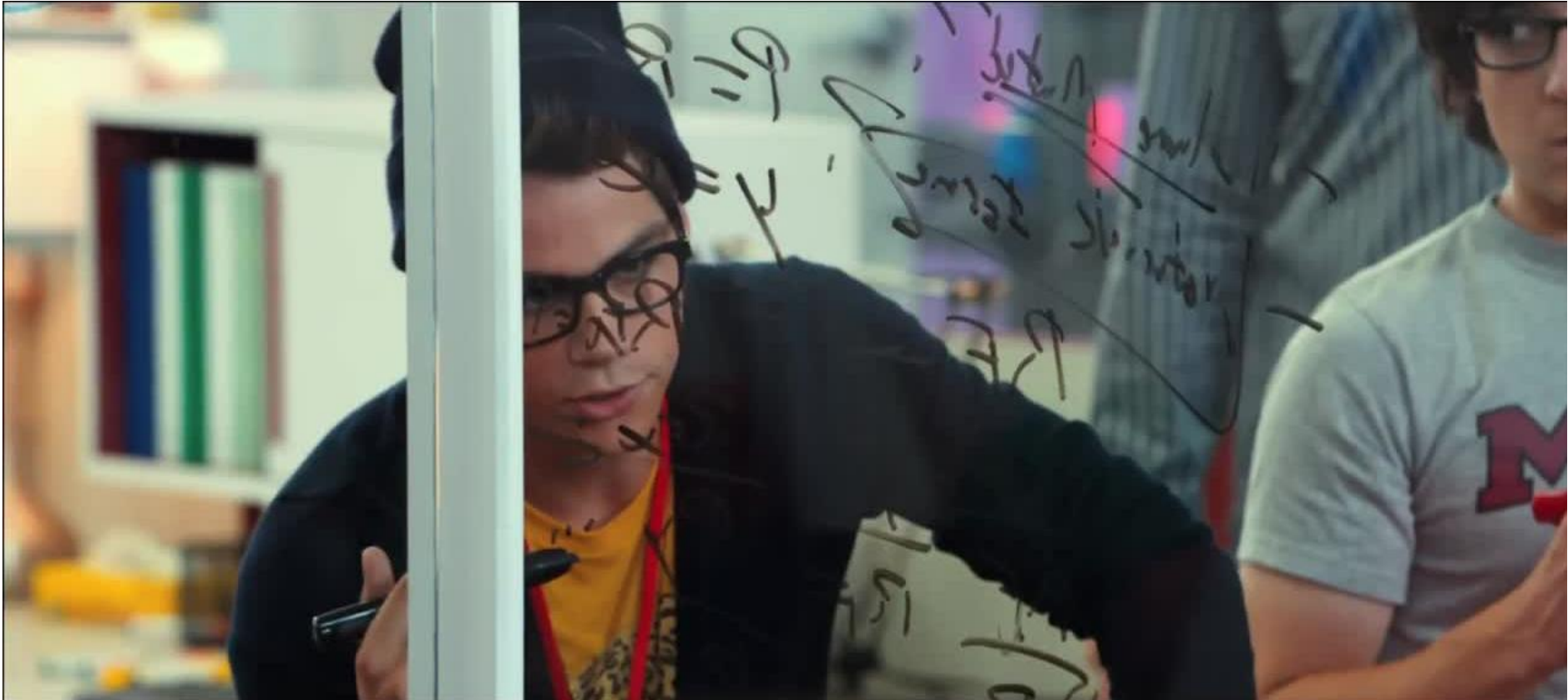
'Format the Code'

Format the code (con't)

Enterprise Guide
has a nice feature to
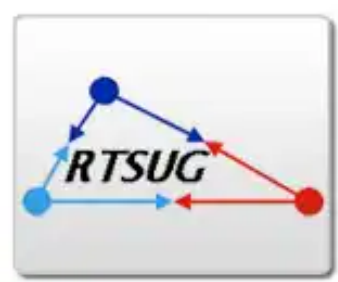format the code;

insert line spaces,
and apply
indentation.

Test run the code

'Find the Bug'

Test Run the code (con't)

Test running the code entails searching for errors and warnings

Save your log

'Save your log, so your work can be reviewed later.'

Save your log (con't)

Log saving methods

- Manually save the Log using FILE menu
  - Tedious

- PROC PRINTTO
  - Automated Log Saving.
  - Color-coded Log not accessible.

- Display Manager (DM) Command
  - DM 'Log;File "C:\Projects\SAS Files\SAS Logs\ETL_Process1.log";
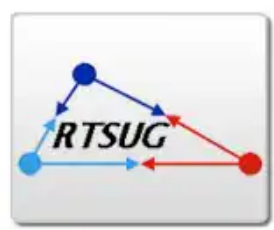
Modify the code

```
FILENAME MEDCOND "C:\SAS\SAS Temporary Files\ medical_cond_tables.txt";

                     /*STEP 1 */
Proc S3 Config="C:\Users\OneDrive-DHHS\DataLayer\Cred\tks3.conf";
   Get "/cdc-corefiles-datalayer-dataanalytics/medcond_tables.txt"
       "C:\SAS\SAS Temporary Files\medcond_tables.txt";
Run;
                     /*STEP 2 */
Proc Import Datafile=MEDCOND
          Out=Medical_Conditions
          Dbms=DLM
          REPLACE;
          Delimiter=TAB;
          Getnames=YES;
          Datarow=2;
Run;
                     /*STEP 3 */
Data Medical_Conditions2;
   Set Medical_Conditions;
   If Person_ID="IJKLMNOP54231534" then delete;
Run;
```

```
                  /*STEP 4 */
Data Medical_Conditions;
   Set Medical_Conditions2;
run;
                  /*STEP 5 */
Proc Datasets library=work;
   Delete Medical_Conditions2;
run;
                  /*STEP 6 */
Proc Freq data = Medical_Conditions;
   Tables file_update_date / nocum nopercent;
run;
```
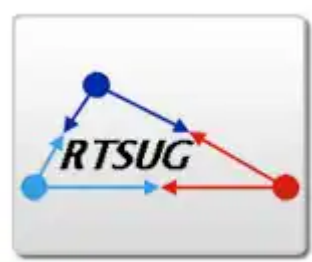
The above code runs without errors and warnings.
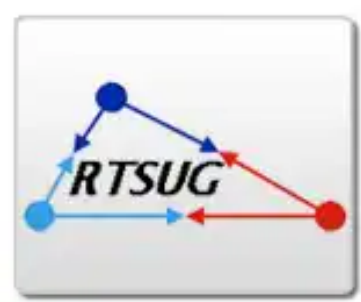
Hence it runs 'Okay'.i

Modify the code

Okay isn't great!

Okay isn't fantastic!

Modify the Code

```
FILENAME MEDCOND  "C:\SAS\SAS Temporary Files\medical_cond_tables.txt";

Proc S3 Config="C:\Users\OneDrive-DHHS\DataLayer\Cred\tks3.conf";
   Get "/cdc-corefiles-datalayer-dataanalytics/medical_cond_tables.txt"
       "C:\SAS\SAS Temporary Files\medical_cond_tables.txt";
Run;


Proc Import Datafile=MEDCOND
        Out=Medical_Conditions
        Dbms=DLM
        REPLACE;
        Delimiter=TAB;
        Getnames=YES;
        Datarow=2;
Run;

Proc Sql;
     Delete from Medical_Conditions
     Where Person_ID="IJKLMNOP54231534";
Quit;

Proc Freq data = Medical_Conditions;
     Tables file_update_date / nocum nopercent;
Run;
```
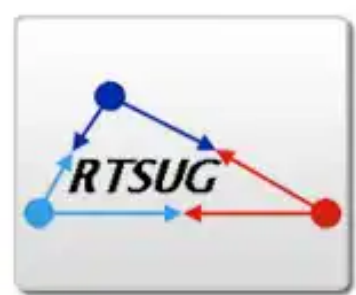
4 steps instead of 6

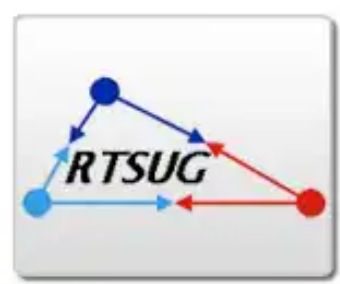Using PROC SQL DELETE FROM avoids creating a data set.

New code is more efficient and streamlined.

Archive the Code

- When Code is retired it will need to be stored in an archive.

- Code is archived when
  - a project is completed or finished.

  - new modernized code replaces old code.

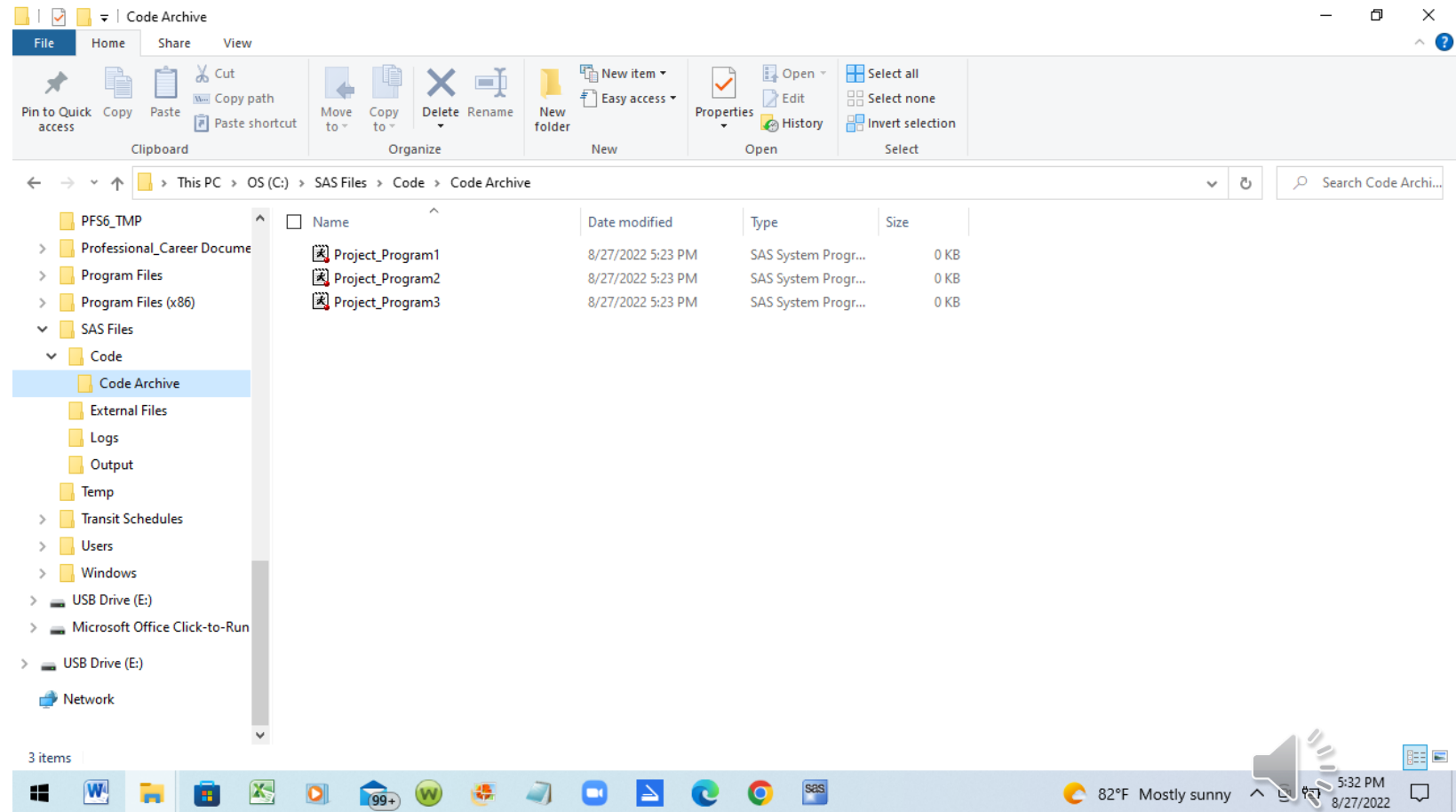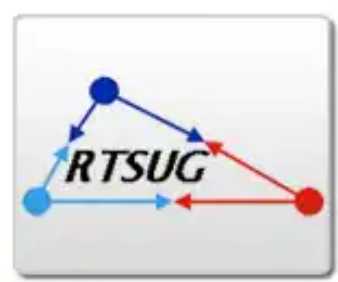 - New development languages replaces SAS, Python, etc.

Archive the Code (con't)

Simple method to archive code involves creating code archive folder under project root directory

Code Archive is nested within Code Folder

Conclusion

- Contract work demands that programmers hit the ground running and get up to speed quickly in high-pressure environments.

- The nature of contract SAS work is to work with existing SAS processes, not to reinvent the wheel.

- SAS consultants and contractors will need to perform a variety of tasks with legacy code, from updating and modifying to archiving the code.
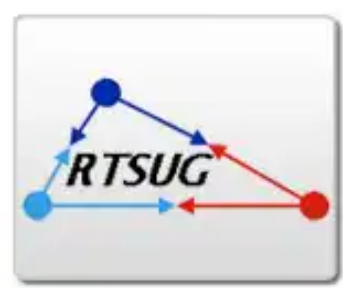
Contact Information

Thanks for Attending!

Questions?

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