

Can SAS programs have memory?

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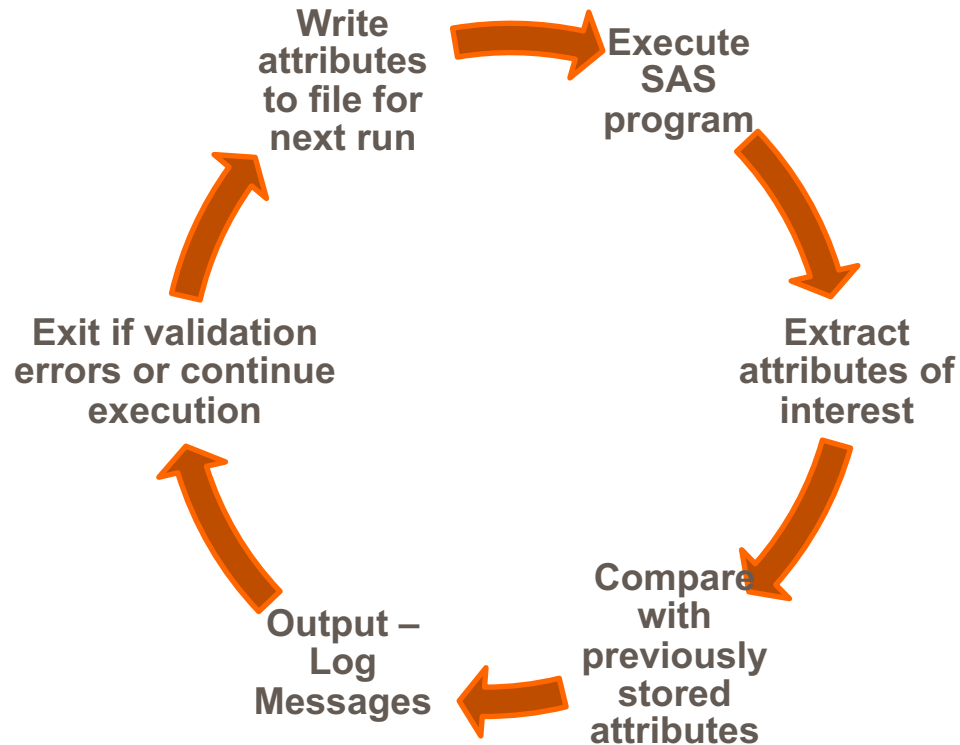
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- **Introduction – The Concept of Memory**
 - **Implementation logic in SAS**
 - **Use Case**
 - **Conclusion**

The Concept of Memory



- **Memory is the ability to keep a record of information systematically and an ability to access it when needed.**
- **Computer can remember by storing data either temporarily in RAM or permanently on ROM or other internal or external storage devices.**
- **Humans do it by storing information's as neuronal connections and retrieving information by firing those connections when needed.**





Task: Copy DM Data from Staging Area to Analysis and Reporting Area and Compare Key Data Attributes.



Requirement : We did not want to store previous versions of data

Tracking:

- **If indeed new extraction (Data management data extraction having failed for all or some datasets)**
- **Missing observations in the dataset in the new extraction compared to previous extraction (Incomplete extraction)**
- **Missing or new datasets in the current transfer vs Older transfer**

We implemented as SAS code that extracted the data features of interest, compared with the previous set of features and then printed messages in a log letting user know the changes and then updated the new set of features to compare for the next run.

```
%let dat=%scan(&dlist,&i," ");
%put &dat;
%do %while(" &dat" NE "");
  %local dsid rc ;
  %let dsid = %sysfunc(open(&dat));
  %if (&dsid) %then %do;
    ➔ %let modte=%sysfunc(attrn(&dsid,modte),datetime.);
    %let rc = %sysfunc(close(&dsid));
    %if &i eq 1 %then %do;
      data &prefix._dttm;
      set &prefix._dttm;
      dataset=" &dat";
      modte=input("&modte", datetime20.);
    run;
  %end;
%else %do;
```

```
%let i=1;
%let moddate=%scan(&datadt,&i," ");
%put &moddate;
%do %while("&moddate" NE "");
    %local rc fileref ;
    %if &i eq 1 %then %do;
        %let parent=&moddate;
        %let rc = %sysfunc(filename(fileref,%qcmpres(&topath/&parent))) ;
        %if %sysfunc(fexist(&fileref)) %then %do;
            %put ERROR: Directory with date &parent already exists, Check if files already copied;
            %goto quit;
        %end;
    %else %do ;
        %sysexec mkdir "%qcmpres(&topath/&parent)" ;
        *-- Over write the the current attrib keeper with a new one ---*
        filename outfile "%qcmpres(&topath/datmoddt.dat)" ;
```

```
*-- write a note for all files not modified since last cut ---*
```

```
%if %sysfunc(exist(&prefix._same_as_prev)) %then %do;
```

```
    filename unmod "%qcmpres(&topath/&parent/not_modified_since_prevcut.dat)";
```

```
    data _null_;
```

```
        set &prefix._same_as_prev ;
```

```
        file unmod;
```

```
        put dataset $80. modtte datetime20.;
```

```
run;
```

```
%put NOTE: Some datasets are not modified since last data cut;
```

```
%put NOTE: To view these check "not_modified_since_prevcut.dat" under the &parent [datacut] folde
```

- The technique presented here is easily extensible to other applications if we can extract the data feature that we are interested in and store the same.
- Can automate some day to day tasks the a programmer performs
- However, it's also important to remember that since the interest is not in the artifact itself, but only the features or attributes of interest, its therefore important that all features of interest must we known 'a priori' , in case the original artifact is not stored.

Three overlapping, rounded, organic shapes in shades of orange and yellow, creating a layered, abstract background for the text.

Thank you