

Semi-Automated Programming

How to reduce or eliminate
finger errors

What is the problem?

- Program runs monthly to attach additional information to a file.
- The data comes from another unit.
- The output may be used at some far future date by someone else.



What has to be changed?

- The names of the input data files
- The name of the output data file
- The name of the log file for documentation



Data File Names

\\ABC6\NND_RefData\SampleFrames\
HJK\Micro\RHJK_RV96_200310.TXT

YYYYMM



I Need a Date

```
intnx('month',today(),-1,'middle');
```

INTNX Function

Increments a date, time, or datetime value by a given interval or intervals, and returns a date, time, or datetime value



Data file names

```
data _null_;  
  lastmnth = intnx('month',today(),-1,'middle');  
  
  call symput('yyyy',put(lastmnth,year4.));  
  
  call symput('yyyymm',put(lastmnth,yymm6.));  
  
  call symput('mmyy',put(lastmnth,mmyyn4.));  
run;
```



Dates

yyyy=2004

yyyymm=200412

mmyy=1204



Filename with dates

```
filename PUMF "&HJKshare\PUB&mmyy..PRN";
```

```
filename CONC "&HJKshare\CORR&mmyy..PRN"
```



What has to be checked?

- Are the data files there?
- Is it the right data in the data file?
- Did the process work?
- Do you have the same number of records that you started with?



Are the data files there?

```
data _null_;  
if not fexist('PUMF')  
then do;  
  put 'ERROR-';  
  put "ERROR: HJK PUMF is missing";  
  put 'ERROR-';  
  call symput('errcode','1');  
end;  
run;
```



Is it the right data?

```
input @ 001 REC_NUM   $char007.  
      @ 008 surdate   $char006.  
      @ 001 thedata   $char138.;  
  
if surdate ne "&yyyymm."  
then do;  
    put 'ERROR: Wrong survey date: '  
    call symput('errcode','1');  
end;
```



Did the process work?

```
if eof
then do;
  if badP
  then
    put 'ERROR: PUMF file had ' badP 'unmatched records.';

  if badC
  then
    put 'ERROR: CONCORD file had ' badC 'unmatched records.';

  if badP or badC then call symput('errcode','1');
  if "&errcode." gt "0" then abort;
end;
```



Are all the records there?

```
call symput('mc',put(_n_,10.));
```

`_n_` is a special variable



Are all the records there?

```
if eof and _N_ ne &mc.
then do;
  put 'ERROR: Number of records written does not match the
      original micro data file.';
  put 'ERROR- This should be a one-to-one match, any
      non-matches indicate';
  put 'ERROR- an error in the HJK files. Errors of this nature
      must be reported';
  put 'ERROR- to the contact in HJK (see program header notes
      for details.)';
  call symput('errcode','1');
  abort;
end;
```



Colour in your log...

ERROR: Your message in red

ERROR- Your message in red

This works with:

ERROR, WARNING and NOTE

Red

Green

Blue

Must use upper case!



What could you add?

- Use Windows[®] Scheduler to launch
- Add an e-mail status report
- SAS could improve the ABORT statement



Questions?

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