

# Tips and Tricks: Custom Reporting and Error Checking

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# Custom Reporting

- ODS PDF and HTML
  - Allow creation of PDFs from a number of procedures such as Proc Tabulate or Proc Print.
  - Problem: No Flexibility

# Custom Reporting

- Flexibility of Data `_NULL_`
  - Allows a report to be created from a series of Put statements – no formal structure.
  - Drawback - it only allows you to write to a text file.  
(CAN'T be used with ODS PDF)
- Objective: Create a PDF from a Data `_NULL_`

# The Workaround

1. Create a text file report using a Data `_NULL_` step and a series of 'Put' statements.
2. Read in the text file as a single variable (variable width = the whole line).
3. Use a Proc Print inside an ODS PDF to create a PDF file from the output.

# The Text File

\$NEWPAGE\$		1		CO-OP FEED Price List EFFECTIVE IMMEDIATELY Subject to change without notice		14:33:28 May 18, 2006 1-SRP		Page 1		
1-SRP	Saskatoon Order Desk.(306) 477-6464	Bag	Bulk/T	14:33:28	May 18, 2006	1-SRP	Bag	Bulk/T		
--03-	..Fats & Oils.....	-	-----			--FB-	..Duck&Goose Complete....	-	-----	
96254	T FISH OIL.....	L L016	\$44.00			93104	W.E. DUCK & GOOSE GROWER.	C B025	\$7.90	
--05-	..Protein.....	-	-----			--GB-	..Ratite Complete.....	-	-----	
96316	CANOLA/CDDG BLEND.....	M		\$169		93017	STN 23% OSTRICH BREEDER..	P B025	\$10.05	
--10-	..Mid Protein.....	-	-----			--IA-	..Dairy Starter.....	-	-----	
BRN	BRAN.....	I B025	\$10.35			51101	* - 18% DAIRY CALF ST T OXY..	T B025	\$8.15	\$255
--20-	..Fibre Source.....	-	-----			51219	- CCR1 P OXY.....	P B025	\$8.10	\$254
96451	ALFALFA (SC) PELLETS.....	P B025	\$8.25			51220	- CCR1 (DECCOX).....	P B025	\$8.40	
96454	* BEET PULP.....	P B025	\$6.80			--IB-	..Dairy Complete.....	-	-----	
--25-	..Mineral - Base.....	-	-----			52222	- 15% BND HEIFER RATION....	P B025	\$5.95	\$167
96504	* T LIMESTONE POWDER.....	M B025	\$4.60			52900	* - 18% BND DAIRY RATION....	P B025	\$6.40	\$185
--51-	..Flavors.....	-	-----			53105	- BND 16% DAI DRY COW RTN..	P B025	\$7.90	\$245
96801	MOLASSES MILLMIX - 26KG..	L P026	\$15.90			53130	- TRANSILAC DAIRY RTN.....	P B025	\$6.90	
DML	DRIED MOLASSES.....	I B025	\$16.50			53220	- SYNCHRO 16.0% DAI RTN P..	P		\$178
--55-	..Miscellaneous.....	-	-----			--IC-	..Dairy Supp-Dry.....	-	-----	
SUR	T SURESHELL.....	I B025	\$6.90			54101	- SYNCHRO TMR SUPP 34-0....	P		\$332
--AA-	..Swine Starter.....	-	-----			54205	- DAIRY SUPP 32-0.....	P B025	\$10.25	\$339
11073	UW UNLIMITED LS20.....	C B025	\$37.70	\$1,437		55400	- 35.0% BND DAIRY SUPP....	P B025	\$9.40	\$305
11093	G.I. MAX-21 (LS-20).....	C B025	\$18.65			55449	- STN JANZEN DAIRY SUPP....	M		\$290
11164	HND PIG START NM (LS-20)..	C B025	\$12.40	\$425		--IE-	..Dairy Milk Repl.....	-	-----	
11240	* PIG START NM (LS-20)....	C B025	\$9.05	\$291		59121	* T PURLAC MILK REPLACER....	M B010	\$28.95	
--AB-	..Swine Complete.....	-	-----			59311	* - PURLAC MILK REPLACER....	M B020	\$56.60	
12104	HND GRO.....	C		\$193		59330	* T WN CALF MLK REPLCR ORANGE	M B010	\$23.80	
12434	Whole Earth Sow Diet.....	P B025	\$6.15	\$175		--IF-	..Dairy Premix-Macro....	-	-----	
12458	* Whole Earth PORK GRO.....	P B025	\$6.10	\$174		56117	CO-OP DAIRY PREMIX.....	M B025	\$16.55	\$592
13080	LIPID LAC.....	P		\$502		--JA-	..Beef Starter.....	-	-----	
--AC-	..Swine Supp-Dry.....	-	-----			61400	HI-GAIN CALF CREEP RTN..	P B025	\$6.15	\$175
14216	HND GRO SUPP NO MTM.....	M		\$350		63440	- PNDMKR SPRING CREEP RTN..	P		\$145
14309	* Whole Earth Hog Supp....	M B025	\$14.25	\$500		63445	- PNDMKR SUMMER CREEP RTN..	P		\$151
--AE-	..Swine Milk Replacer....	-	-----			--JB-	..Beef Complete.....	-	-----	
59501	T WETNURSE PIG MILK.....	M B010	\$33.20			62109	- GROWER-250-PELLET.....	P		\$134
--AF-	..Swine Premix-Macro....	-	-----			62324	- STN FINISHER 450-TEXT....	T		\$142
16402	* UMX SOW PREMIX 50.....	M B025	\$17.95	\$647		62416	- STN GSP VM.....	P		\$103
16900	UMX ST BASE 100 (PLAIN)..	M B025	\$24.35	\$904		62432	- STN 15% GSP VM R34.....	P		\$114
16911	* UMX PIG GRO PMX.....	M B025	\$18.15	\$656		62802	* - ELITE BREED RTN-TEXT BRY.	T B025	\$6.70	\$198
16921	UMX PIG GRO PMX-1.....	M B025	\$18.95	\$687		62825	- EB BULL RTN-TEXT BRY....	T		\$192
16922	UMX PIG GRO PMX-3.....	M B025	\$20.70	\$758		63107	* - 14% RANGE PELLETS.....	P B025	\$4.70	\$118
--BA-	..Layer Starter.....	-	-----			63305	- 20% BEEF COW PELLETS....	P		\$136
21108	* WHOLE EARTH CHICK STARTER	C B025	\$8.00	\$250		63401	- POUNDMAKER 150.....	P		\$114
21246	* BAG STARTER PLUS (AMP)...	C B025	\$8.55	\$271		63450	- PNDMKR RECEIVER - R-33..	P		\$156
--BB-	..Layer Complete.....	-	-----			63503	- PAST EXTENDER.....	P		\$119
22108	* WHOLE EARTH POULT GROW...	C B025	\$6.80	\$202		--JC-	..Beef Supp-Dry.....	-	-----	
22148	- BAG PULLET GROWER(AMP)...	C		\$194		64402	- FDLT SUPP 42-18.....	P B025	\$9.75	\$319
23510	* WHOLE EARTH LAYER DIET...	C B025	\$7.10	\$214		65160	* - ELITE BREEDER SUPP.....	P B025	\$10.40	\$345
BC	Layer Supp					65200	* - HI-GAIN CATTLE SUPP....	P B025	\$7.30	\$221
						65201	* - HI-GAIN SUPP R-388.....	P B025	\$8.00	\$250
						65202	- HI-GAIN SUPP R-580.....	P B025	\$8.35	\$263
						65400	- POUNDMAKER CATTLE SUPP..	P		\$197
						65508	* - SWEET SUPP 32-12 BLOCK..	K K125	\$82.00	
						65603	* - SWEET SUPP 30 0 BLOCK..	K K125	\$70.00	

# Read in the Text File

```
Data Library.PdfX ;
```

```
  Infile TEXTFILE ;
```

```
  Length XPage $ 2 ;
```

```
  Retain XPage ' ' ;
```

```
  Input @ 1 LineX $Char135. ;
```

```
  If Substr (LineX , 1 , 4) = '$NEW' Then Do ;
```

```
    XPage = Substr (LineX , 20 , 2) ;
```

```
    Delete ;
```

```
  End ;
```

```
Run ;
```

# Write the PDF

```
Options Nodate Orientation=Portrait NoByline ;
```

```
Ods Pdf File=PDFout Uniform NOTOC SAS ;
```

```
Proc Print Data=Library.PdfX Uniform Noobs Label ;
```

```
  By XPage ;
```

```
  Pageby XPage ;
```

```
  var LineX ;
```

```
  Label LineX = "." ;
```

```
Run ;
```

```
Ods Pdf Close ;
```

# This gets us to.....

- A basic PDF report that we can completely control:
  - Appearance
  - Page Breaks
  - Etc.

# This gets us to.....

SAS PRESENTATION - CO-OP FEED - PRICE LIST

1

CO-OP FEED Price List EFFECTIVE IMMEDIATELY Subject to change without notice										Page
1-SRP	Saskatoon Order Desk.(306) 477-6464	Bag	Bulk/T	14:06:37	May 18, 2006	1-SRP	Bag	Bulk/T		1
--03-	..Fats & Oils.....					--FB-	..Duck&Goose Complete....			
96254	- T FISH OIL..... L L016	\$44.00				93104	- W.E. DUCK & GOOSE GROWER. C B025	\$7.90		
--05-	..Protein.....					--GB-	..Ratite Complete.....			
96316	- CANOLA/CDDG BLEND..... M		\$169			93017	- STN 23% OSTRICH BREEDER.. P B025	\$10.05		
--10-	..Mid Protein.....					--IA-	..Dairy Starter.....			
BRN	- BRAN..... I B025	\$10.35				51101	* - 18% DAIRY CALF ST T OXY.. T B025	\$8.15	\$255	
--20-	..Fibre Source.....					51219	- CCR1 P OXY..... P B025	\$8.10	\$254	
96451	- ALFALFA (SC) PELLETS..... P B025	\$8.25				51220	- CCRI (DECCOX)..... P B025	\$8.40		
96454	* - BEET PULP..... P B025	\$6.80				--IB-	..Dairy Complete.....			
--25-	..Mineral - Base.....					52222	- 15% BND HEIFER RATION.... P B025	\$5.95	\$167	
96504	* T LIMESTONE POWDER..... M B025	\$4.60				52900	* - 18% BND DAIRY RATION..... P B025	\$6.40	\$185	
--51-	..Flavors.....					53105	- BND 16% DAI DRY COW RTN.. P B025	\$7.90	\$245	
96801	- MOLASSES MILLMIX - 26KG.. L P026	\$15.90				53130	- TRANSILAC DAIRY RTN..... P B025	\$6.90		
DML	- DRIED MOLASSES..... I B025	\$16.50				53220	- SYNCHRO 16.0% DAI RTN P.. P		\$178	
--55-	..Miscellaneous.....					--IC-	..Dairy Supp-Dry.....			
SUR	- T SURESHELL..... I B025	\$6.90				54101	- SYNCHRO TMR SUPP 34-0.... P		\$332	
--AA-	..Swine Starter.....					54205	- DAIRY SUPP 32-0..... P B025	\$10.25	\$339	
11073	- UW UNLIMITED LS20..... C B025	\$37.70	\$1,437			55400	- 35.0% BND DAIRY SUPP..... P B025	\$9.40	\$305	
11093	- G.I. MAX-21 (LS-20)..... C B025	\$18.65				55449	- STN JANZEN DAIRY SUPP.... M		\$290	
11164	- HND PIG START NM (LS-20). C B025	\$12.40	\$425			--IE-	..Dairy Milk Repl.....			
11240	* - PIG START NM (LS-20)..... C B025	\$9.05	\$291			59121	* T PURLAC MILK REPLACER..... M B010	\$28.95		
--AB-	..Swine Complete.....					59311	* - PURLAC MILK REPLACER..... M B020	\$56.60		
12104	- HND GRO..... C		\$193			59330	* T WN CALF MLK REPLCR ORANGE M B010	\$23.80		
12434	- Whole Earth Sow Diet..... P B025	\$6.15	\$175			--IF-	..Dairy Premix-Macro.....			
						56117	- CO-OP DAIRY PREMIX..... M B025	\$16.55	\$592	

# Final Touches.....

- Modify the appearance using:
  - Proc Template changes
  - Other options

# Proc Template

- Allows you to start from the SAS default style and modify it to fit your needs:
  - Change Font sizes and weights
  - Control appearance of borders
  - Change colors
  - Etc.

# PROC TEMPLATE

```
Proc Template ;  
  define style styles.NewStyle ;  
  parent = styles.default;  
  
  replace fonts /  
  'BatchFixedFont'      = ("SAS Monospace, Courier",6.7pt)  
    'docFont'           = ("SAS Monospace,  
Courier",6.8pt,Bold)  
    ;  
  
  replace Output from Container /  
    frame                = void  
    rules                = none  
    ;  
  
  End;  
  
Run;
```

# Write the PDF - changes

```
Options Nodate Orientation=Portrait NoByline NoNumber ;  
Ods Pdf File=PDFout style=NewStyle Uniform NOTOC SAS ;  
Proc Print Data=Library.PdfX Uniform Noobs Label ;  
    By XPage ;  
    Pageby XPage ;  
    var LineX / style(HEADER) = [background = white] ;  
    Label LineX = "." ;  
Run ;  
  
Ods Pdf Close ;
```

# The Finished Result

Fdp815AA CO-OP FEED - PRICE LIST

CO-OP FEED Price List EFFECTIVE IMMEDIATELY Subject to change without notice										Page 3
5	Saskatoon Order Desk.(306) 477-6464	Bag	Bulk/T	12:00:09	May 18, 2006	5		Bag	Bulk/T	
93245	- - 20% PHEASANT FIN (BULK).. C B025	\$7.60	\$233	55103	- - BND 18.0% DAIRY MXP..... P				\$211	
93252	- - WH 16% PHEAS RELEASE GROW C B025	\$7.45	\$227	55122	- - 26% CALF START MXP OXY... P				\$313	
				55202	- - BND 21.0% DAIRY MXP..... P				\$219	
--IA-	- - ..Dairy Starter..... - - - - -			55205	- - BND 25.0% DAIRY MXP..... P				\$229	
51100	- - 18% DAIRY CALF ST T DEC.. T		\$261	55305	- - BND 29.0% DAIRY MXP..... P				\$239	
51101 *	- 18% DAIRY CALF ST T OXY.. T B025	\$8.15	\$255	55400	- - 35.0% BND DAIRY SUPP..... P B025	\$9.40			\$305	
51217	- - CCR1 P..... P B025	\$7.80	\$242	55446	- - BND 36-0 TOP DRESS..... P				\$321	
51219	- - CCR1 P OXY..... P B025	\$8.10	\$254	55800	- - HI-LAC 25% DAIRY SUP..... P				\$271	
51220	- - CCR1 P DEC..... P B025	\$8.40	\$265	55850	- - HI-LAC 29% DAIRY SUP..... P				\$298	
--IB-	- - ..Dairy Complete..... - - - - -			--IE-	- - ..Dairy Milk Repl..... - - - - -					
52201	- - 14.0% BND DAIRY RTN(TEX).. T		\$184	59121 *	T PURLAC MILK REPLACER..... M B010	\$28.95				
52209	- - 14% BND DAIRY RATION..... P		\$176	59311 *	- PURLAC MILK REPLACER..... M B020	\$56.60				
52220	- - 17% BND HEIFER RATION.... P		\$171	59330 *	T WN CALF MLK REPLCR ORANGE M B010	\$23.80				
52222	- - 15% BND HEIFER RATION.... P B025	\$5.95	\$167							
52301	- - 16% BND DAIRY RATION-TEX. T B025	\$6.50	\$190	--IF-	- - ..Dairy Premix-Macro..... - - - - -					
52308	- - 16% BND DAIRY RATION..... P		\$174	56116	- - CO-OP DAIRY PREMIX-XP.... M				\$737	
52503	- - STN HOLHAV DAIRY RTN..... P		\$214	56117	- - CO-OP DAIRY PREMIX..... M B025	\$16.55			\$592	
52505	- - SOL-U-LAC 19%BND DAI RTN. P		\$179	56118	- - CO-OP DAIRY PREMIX-XC.... M				\$504	
52506	- - 20.0% BND DAIRY RATION... P		\$189	56600 *	- COOP DRY COW PREMIX..... M B025	\$27.35				
52507	- - HI-LAC 20% DAIRY RTN P... P		\$205							
52605	- - 14% PREPRO DAIRY RATION.. P		\$167	--IH-	- - ..Dairy Mineral..... - - - - -					
52705	- - 19% PREPRO DAIRY RATION.. P		\$177	57703	- - CAL FREE MINERAL PLUS.... M B025	\$31.50			\$1,189	
52819	- - 19% PRE-PRO FAT DAIR RAT. P		\$198							
52900 *	- 18% BND DAIRY RATION..... P B025	\$6.40	\$185	--JA-	- - ..Beef Starter..... - - - - -					
52901	- - 18% BND DAIRY RTN TEXT... T		\$197	61200	- - CALF CREEP RTN..... P				\$171	
52903	- - HI-LAC 16% DAIRY RTN P... P		\$192	61400	- - HI-GAIN CALF CREEP RTN... P B025	\$6.15			\$175	
52904	- - HI-LAC 18% BND DAIR TX... T		\$220	61415	- - HI-GAIN CALF CREEP T R33. T B025	\$6.15			\$176	
52905	- - HI-LAC 18% DAIRY RTN P... P		\$196	61418	- - HI-GAIN CALF CREEP T..... T				\$173	
52906	- - SOLULAC 18% BND DAI RTN.. P		\$177	61712	- - ELITE BREEDER CREEP RTN P P B025	\$7.00			\$209	
52930	- - SOLULAC 21% BND DAIRY RTN P		\$182	61713	- - ELITE BRDR CRP DECCOX.... P B025	\$7.35			\$224	
52969	- - TOTALAC 15% DAIRY RTN.... P		\$198	63440	- - PNDMKR SPRING CREEP RTN.. P				\$145	
52970	- - TOTALAC 16% DAIRY RTN.... P		\$206	63441	- - PNDMKR SP CREEP R40..... P				\$148	
52971	- - TOTALAC 17% DAIRY RTN.... P		\$217	63445	- - PNDMKR SUMMER CREEP RTN.. P				\$151	

Questions?



# Custom Error Reporting

- Scheduled Jobs on both Mainframe and PC SAS
- Mainframe has its own inherent Error Reporting Mechanism
- Each Day, we can check a single location to see the status of Scheduled Mainframe tasks



----- IOF Job List Menu -----( 26 )-----

COMMAND ==> \_

SCROLL ==> SCREEN

----- Output Jobs -----

	JOBNAME	JOBID	ACT-STAT	OWNER	DEST/DEVICE	RECS-HELD	DAY	TIME
6	INF2R21D	J028290		DOP1029	FCL1	828	143	10:46
7	INF2R21E	J029289		DOP1029	FCL1	771	143	11:46
8	INF2R21F	J029977		DOP1029	FCL1	771	143	12:46
9	INF2R21G	J031058	111	DOP1029	FCL1	475	143	13:45
10	INF2R21H	J031931		DOP1029	FCL1	771	143	14:45
11	ORI1R65	J024795		DOP1029	FCL1	8089	143	:31
12	ORI1R70	J025160		DOP1029	FCL1	1643	143	3:04
13	ORI1R73	J025172		DOP1029	FCL1	42	143	3:08
14	ORI1R74	J025173		DOP1029	FCL1	2901	143	3:09
15	ORI1R76	J025181		DOP1029	FCL1	140	143	3:11
16	ORI1R80	J025305		DOP1029	FCL1	2000	143	5:17
17	ORI1R90	J029460		DOP1029	FCL1	28K	143	12:04
18	ORI2R25	J024821		DOP1029	FCL1	2260	143	1:02
19	ORI4R60	J025090		DOP1029	FCL1	3938	143	2:18
20	ORI6R41	J025292		DOP1029	FCL1	1347	143	5:00
21	ORI6R43	J024414		DOP1029	FCL1	448	142	19:41
22	ORI8R07	J000121		DOP1029	FCL1	757	143	16:02
23	ORM5R30	J025045		DOP1029	FCL1	14K	143	2:07
24	ORM5R31	J025066		DOP1029	FCL1	10K	143	2:09

# PC SAS Server

- About a year ago we began moving tasks over from the Mainframe to the PC whenever practical.
- Dedicated PC SAS Server with Tasks Scheduled via .bat files
  - Monthly, Weekly, and Daily Tasks

# PC SAS Server

- Failed Tasks lead to lost time as Data and Reports are not ready for necessary functions
- Failed tasks that go unnoticed are particularly costly...

# First Attempt

- Scheduled SAS Server tasks Lack the Mainframe's ability to notify at a glance when a job has failed
- Our First idea was an Email Notification for jobs that had failed

# First Attempt

```
%Macro EMAILERR (a) ;
```

```
* Email to OR if a pc sas job fails on the server ;
```

```
%If %Uppcase(&OrProdTest) = PROD and &SYSERR >= 0 %Then %Do ;
```

```
Filename OUTBOX EMAIL "dor3072@fcl.ca" ;
```

```
Data _null_ ;
```

```
File OUTBOX
```

```
TO=("dor3087@fcl.ca" "dor3067@fcl.ca")
```

```
CC=("dor3072@fcl.ca" )
```

```
Subject="Job &a syserr= &syserr &stime &sysday, &sysdate9."
```

```
;
```

```
Put "Job &a Ran &stime &sysday, &sysdate9." ;
```

```
Put "SYSERR= &syserr OrProdTest= &OrProdTest" ;
```

```
Run ;
```

```
%End ;
```

```
%Mend EMAILERR ;
```

# First Attempt

- So, with a Macro call like this at the end of a SAS step,
  - %EMAILERR(Ori170xx) ;
- You would receive and email with the following text,
  - Job Ori170xx Ran 09:30 Thursday, 24MAY2006  
SYSERR= 0 OrProdTest= Prod

# Failed First Attempt

- This method was unsatisfactory:
  - If the Task Failed, SAS would stop running subsequent statements, including the call to the EMAILERR Macro
- Error Reporting became a passive system, IE:
  - “When I *don't* receive the email for a scheduled task, then there is a problem.”

# Second Attempt

- Since the beginning of our transition to PC SAS we had used the .bat files to route all SAS log files to a single folder

*"C:\Program Files\SAS\SAS 9.1\sas.exe"*

*-SYSIN "D:\Homedir\common\Ori170\Ori170xx.sas"*

*-LOG*

*"D:\Homedir\common\OrSasLogFiles\Ori170xx.log"*

# New Idea

- The Proposed Solution was to use SAS to read through the whole directory of SAS log files to detect errors printed to the logs
- The results would then be sent via a single error reporting email

# New Idea

- The Proposed Solution was to use SAS to read through the whole directory of SAS log files to detect errors printed to the logs
- The results would then be sent via a single error reporting email

# Getting SAS to Read a Folder

```
Data Logfiles ;
  Length
    FileNameX          $ 50
    LstNameX           $ 35
    TaskNameX                $ 35
  ;
rc=Filename('LogDir', "&RootFolder.OrSasLogFiles");
dirid      = dopen('LogDir');
Lstname    = " ";
MemCount   = dnum(dirid);

If (MemCount>0) Then Do ;
```

# Getting SAS to Read a Folder

```
Do i = 1 to Memcount ;

  LstNameX = dread(dirid,i) ;
  If Index(LstNameX, ".log") > 0 Then Do ;
    TaskNameX = Substr(LstNameX, 1, Index
                      (LstNameX, ".log" ) - 1 ) ;
    FileNameX = "&RootFolder.OrSasLogFiles\"
              || LstNameX ;

    LogCnt + 1 ;
    If TaskNameX ~= "Orm003aa" then Output ;
  End ;
End;
End ;
rc=dclose(dirid) ;
Run ;
```

# Looping Through the Files

- Now that we have a Dataset of the File Names we needed SAS to Read in the Logs one line at a time and search for indicators of a Program Error

# Looping Through the Files

```
Infile XXXXXX FileVar=FileNameX FileName=MyInfileX
  End=DoneX ;
MyInfileY = MyInfileX ;
Do While (~DoneX) ;
  Input ;
  InputRecordX = _infile_ ;

  If Substr(Upcase(InputRecordX),1,10) = "***THE JOB"
  and Index(Upcase(InputRecordX),"WAS STARTED AT >>>") > 0
  then do ;

    Jobtime = Input( Substr(InputRecordX,43, 5), Time5.) ;
    JobDate = Input( Substr(InputRecordX,55, 7), Date7.) ;
    BatName = Scan ( Substr(InputRecordX,69,18), 1 ) ;
  End ;
```

# Looping Through the Files

```
If Index(Upcase(InputRecordX), "ERROR: ERRORS PRINTED ON  
PAGE") > 0 then do ;  
    ErrorCd1 = "Err on Pg" ;  
    Call Symput ('SubjErr', " !!! Error Detected !!! ");  
End ;  
  
End ;  
  
Output ;
```

- The Phrase "Err on Pg" identifies an Error in the Log File

# Other Features

```
%Macro JobDateX(a,b) ;
  Data _Null_ ;
  Format JobTime Time5.
  JobDate Date7. ;
  JobTime = "&Systime"t ;
  JobDate = "&SysDate"d ;
  Put
    @ 1   "***The Job "
    @ 12  "&a was Started At >>> "
    @ 43  JobTime           Time5.
    @ 49  ", on "
    @ 55  JobDate           Date7.
    @ 64  "from &b *** "
  ;
  Run;
%Mend JobDateX ;
```

# Results

(Orm003aa) - Sas Server Error Reporting  
Job Orm003aa Ran 08:15 Tuesday, 23MAY2006  
Error Status of Jobs run on Usserv24

Job Name	BatName	ErrorCd1	ErrorCd2	ErrorCd3	Time	Date	Day
Fdp815xy	Fdp815aa				12:00	22MAY2006	Mon
Fdp820xy	Fdp820aa				11:00	22MAY2006	Mon
Ord041Pxx	Ord041Paa				5:45	23MAY2006	Tue
Ord041xx	Ord041aa				5:00	23MAY2006	Tue
Ord563xx	Ord563aa				7:30	23MAY2006	Tue
Ori071Cxx	Ori071FirstOfMonth				10:42	08MAY2006	Mon
Ori071Dxx	Ori071FirstOfMonth				10:42	08MAY2006	Mon
Ori071Exx	Ord071FirstOfMonth				10:42	08MAY2006	Mon
Ori071Ixx	Ori071FirstOfMonth				10:42	08MAY2006	Mon
Ori101n1					.	.	.
Ori101x1	Ori101x1				8:00	23MAY2006	Tue
Ori102Exx	Ori102Eaa				7:45	17MAY2006	Wed
Ori108xx	Ori108aa				4:45	23MAY2006	Tue
Ori109aa	Ori109aa				3:30	23MAY2006	Tue
Ori170xx	Ori170aa				5:30	23MAY2006	Tue
Ori176xx	Ori176aa				7:15	23MAY2006	Tue
Ori225fxx	Ori225f				6:30	23MAY2006	Tue
Ori225xx	Ori225aa				6:45	23MAY2006	Tue
Ori470a1	Ori470a1				6:00	23MAY2006	Tue
Ori470b2	Ori470b				6:15	23MAY2006	Tue