ABSTRACT

Dates in report titles can be generated automatically with SAS. This eliminates the need to modify programs each month or prompt for the appropriate date to be used. This poster demonstrates the use of the data step, the macro facility, date functions, and date formats to build dated report titles.

INTRODUCTION

The monthly report is probably the most common type of business report. In order to generate a dated title for the report it is necessary to:

1. Generate the Date Words
2. Put the Date Words in a Macro Variable
3. Use the Macro Variable in a TITLE

STEP 1 - GENERATE THE DATE WORDS

It takes several statements in a data step to generate date words. First the appropriate month and year must be calculated. Typically this is done by obtaining the current date and simply subtracting a month. The figure below shows two different ways of calculating a reference date for the prior month.

```sas
DATA _NULL_;
  REFDATE=TODAY( )-31;
  or
  REFDATE=TODAY( ) - DAY(TODAY( ));
```

Subtracting a number (like 31) has some advantages. It looks less complicated. You might even choose a larger number like 35 if you know that the input data is usually not ready until the fifth of each month. By subtracting 35 a report run on April 2 would assume that it was preparing a February report (March data not available until April 5). The disadvantage of subtracting a fixed number is that you could get the wrong reference month. Nevertheless, I find that the simple number subtraction is best.

Once the reference data is calculated it is a simple matter to extract the year with the YEAR date function.

```sas
YEAR = YEAR(REFDATE); /* YEAR = 1989 */
```

Now we have to get the name of the month from REFDATE. This can be done with the PUT function and the WORDDATE9 format.

```sas
LENGTH MON_NAME 5 9;
  MON_NAME=PUT(REFDATE, WORDDATE9.);
  MON_NAME=LEFT(MON_NAME);
```

Next we have to add the year behind the month name. Use the TRIM function to remove trailing blanks on the month name and use the PUT function to convert the year to a five-letter character string (one blank and a 4-digit year).

```sas
LENGTH DATEDWORD 14;
  DATEDWORD=TRIM(MON_NAME)||PUT(YEAR, 5.);
```

STEP 2 - PUT THE DATE WORDS IN A MACRO VARIABLE

In order to make this character string available in a title we must first put the string into a macro variable. CALL SYMPUT is used in a data step to make a macro variable. A RUN statement completes the data step.

```sas
CALL SYMPUT( 'MAC_DATE', TRIM(DATEDWORD));
RUN;
```

STEP 3 - USE THE MACRO VARIABLE IN A TITLE

After the above data step runs, the macro variable MAC_DATE will be available for substitution. A TITLE statement can now be written. It is important to make sure the step has completed before the TITLE statement is encountered. That is why it is important to finish the data step with a RUN statement. The TITLE statement should now be constructed with double quotes. Double quotes are used so that macro variables inside the quoted text can be resolved. (It may be necessary to specify OPTIONS DQUOTE; at your installation.)

```sas
TITLE "THE MAC_DATE REPORT";
```

produces: THE MARCH 1989 REPORT
PUTTING THE MONTHLY EXAMPLE TOGETHER

DATA NULL;
   REF_DATE=TODAY( )-31;
   YEAR=YEAR(REF_DATE);
   LENGTH MON_NAME=2;
   MON_NAME=PUT(REF_DATE,MONDDAYS.);
   LENGTH DATEWORD=14;
   DATEWORD=TRIM(MON_NAME)||PUT(YEAR,5.);
   CALL SYMPUT('MAC_DATE',DATEWORD);
RUN;

TITLE1 "THE 1MAC_DATE REPORT";
THE MARCH 1989 REPORT

DATA NULL;
   REF_DATE=TODAY( )-91;
   REFCUR=QTR(REFDATE);
   SELECT (REFCUR);
      WHEN (1) QWORD='FIRST';
      WHEN (2) QWORD='SECOND';
      WHEN (3) QWORD='THIRD';
      WHEN (4) QWORD='FOURTH';
   END;
   YEAR=YEAR(REFDATE);
   LENGTH DATEWORD=18;
   DATEWORD=PUT(REFCUR,4.,111)||'QTR'l
   PUT(YEAR,5.);
   CALL SYMPUT('MAC_DATE',DATEWORD);
RUN;

TITLE1 "THE 1MAC_DATE REPORT";

MORE EXAMPLES

To make each of the examples work, substitute the statements into the pattern data step below.

DATA NULL;
   TODAY=TODAY( ); (April 11, 1989)
   insert statements here
   CALL SYMPUT('DATEWORD',TRIM(DATEWORD));
RUN;

Title "DATEWORD";

Next 5 years:
1990-1994
YEAR =YEAR(TODAY);
NEXT_YEAR=YEAR+1;
FIVE_MORE=YEAR+5;
LENGTH DATEWORD=18;
DATEWORD=PUT(NEXT_YEAR,4.,111)||'QTR'l
   PUT(FIVE_MORE,4.);

Last Saturday:
   LASTSAT =TODAY-WEEKDAY(TODAY);
   LENGTH DATEWORD=18;
   DATEWORD=LEFT(DATEWORD);

End of prior quarter:
   March 31, 1989
QTRM_MONTH=QTR(TODAY)+3-2;
   ENDDATE =MDY(QTRM_MONTH,1,YEAR)-1;
   LENGTH DATEWORD=18;
   DATEWORD=LEFT(DATEWORD);

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