

When “ANYDATE” Doesn’t Mean Any Date: A Macro Solution

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Problem?

	A	B	C	D	E	F	G	H	I
7	mar-8-1933	dec-8-1936	may-21-1950	12-Dec-40	may-12-1942	jan-04-1976	jun-27-1927	may-12-1940	mar-7-1936
8	jan-1-1946	may-18-1946	sep-28-1954	18-Jun-69	april-28-19	sep-26-1941	jun-25-1954	dec-13-1963	oct-19-1934
9	jan-24-1933	jun-10-1925	sep-26-1948	14-May-58	mar-14-1942	jun-6-1956	jul-25-1925	apr-19-1940	dec-6-1958
10	oct-15-1938	3-Jun-66	jun-11-1962	17-Nov-46	dec-14-1938	apr-2-1959	oct-10-1943	jul-14-1955	jan-26-1950
11	jan-25-1953	6-Apr-58	jun-26-1953	29-Aug-31	aug-11-1933	jan-6-1950	aug-2-1951	dec-20-1940	jan-10-1934
12	aug-15-1927	3-Feb-42	apr-9-1939	21-Feb-19	jul-1-1963	oct-19-1942	feb-3-1959	apr-29-1922	mar-5-1947
13	jun-13-1937	2/19/1933	may-15-1932	13-Mar-49	dec-28-1942	may-18-1944	may-5-1957	feb-25-1932	jul-21-1952
14	feb-27-1950	nov/6/1936	jan-1-1950	13-Sep-56	feb-23-1932	sep-6-1961	mar-9-1971	may-29-1964	feb-11-1929
15	aug-21-1940	feb 18,1955	oct-24-1934	25-Nov-40	sep-28-1954	jun-28-1938	jul-6-1948	may-10-1921	sep-28-1954
16	oct-11-1945	feb 28,1957	oct-13-1938	25-Oct-64	jul-18-1944	jan-7-1948	may-4-1946	feb-7-1925	nov-7-1964
17	20-Sep-42	apr 5,1933	apr-24-1953	13-May-44	dec-28-1948	apr-3-1941	aug-17-1946	dec-11-1956	oct-23-1956
18	JUL 1 1945	dec 13,1961	sep-9-1963	6-Apr-57	nov-16-1970	oct-21-1960	oct-28-1962	dec-25-1950	feb-21-1949
19	MAR 15 1934	sep 7,1962	sep-3-1944	27-Dec-54	nov-9-1942	feb-23-1959	aug-5-1972	jan-13-1941	oct-20-1955
20	MAY 7 1956	jan 17,1953	may-21-1956	3-Feb-51	jul-22-1979	dec-18-1936	oct-15-1957	mar-22-1948	jan-2-1929
21	feb-2-1942	feb 23,1956	jun-28-1942	15-Apr-65	may-31-1941	jan-1-1945	may-18-1958	oct-11-1935	feb-27-1953
22	jun-19-1936	april 6,194	jul-21-1957	10-Jun-44	sep-20-1955	jul-28-1928	jun-15-1950	jul-29-1964	oct-20-1944
23	nov-3-1936	aug 10,1936	may-8-1964	19-Feb-62	nov-24-1919	apr-18-1950	apr-12-1922	jul-29-1945	aug-10-1933
24	feb-15-1927	june 15,194	nov-20-1924	11-Dec-54	apr-14-1925	nov-13-1945	jan-12-1934	jun-19-1962	oct-3-1952
25	mar-20-1947	oct 3,1961	8-Aug-64	24-Nov-67	nov-12-1953	dec-31-1949	may-6-1961	dec-16-1970	feb-20-1959
26	oct-14-1916	dec 12,1932	30-Mar-47	30-Oct-56	jan-17-1960	aug-31-1959	mar-30-1956	oct-18-1971	jan-1-1931
27	dec-15-1934	oct 25,1963	18-Jan-34	14-Feb-42	jun-14-1974	may-19-1959	jul-21-1947	apr-22-1925	jan-11-1927
28	sep-22-1939	mar 11,1937	1-Aug-33	27-Jan-60	aug-14-1926	sep-27-1960	may-20-1967	feb-5-1947	aug-13-1948
29	jan-15-1936	feb 5,1965	20-May-67	apr-2-1936	oct-31-1961	dec-22-1934	sep-7-1941	jun-12-1967	nov-17-1936
30	dec-18-1936	aug 7,1956	5-Jul-29	jun-21-1963	oct-13-1947	feb-18-1964	apr-22-1959	oct-1-1975	feb-28-1942
31	apr-29-1943	mar 13,1949	7-Nov-62	jan-29-1956	apr-22-1939	jul-4-1964	feb-15-1938	apr-6-1957	dec-30-1947
32	jun-15-1951	dec-3-1944	26-Jul-52	mar-26-1938	may-7-1962	feb-22-1960	jan-25-1924	sep-19-1949	jan-8-1958
33	nov-16-1919	mar-22-1934	19-Jul-39	sep-27-1947	dec-11-1947	mar-29-1958	nov-23-1968	may-22-1912	may-14-1953
34	jun-15-1931	jun-22-1934	31-Mar-31	mar-29-1936	jul-9-1935	apr-2-1941	oct-1-1953	sep-20-1926	apr-15-1960

Macro – Part 1

```
%macro dates(inds, outds, messy, clean, year_start,  
missing_year_start_date, missing_year, dstyle);
```

Macro – Part 1

```
data _null_;  
    year_end = &year_start + 99;  
    call symput('year_end',year_end);  
    missing_year_end =  
mdy(month("&missing_year_start_date"d),  
        day("&missing_year_start_date"d),  
        year("&missing_year_start_date"d + 99));  
    call symput('missing_year_end_date',missing_year_end);  
run;
```

Macro – Part 2

```
libname dateform "T:\date macro ";  
  options yearcutoff=&year_start  
  fmtsearch=(dateform) datestyle=&dstyle;  
  
%include "T:\date macro\date formats.sas";
```

Macro – Part 3

```
proc format;
  picture mondyyyy (default=11) other ='%b %d %Y'
  (datatype=date);
run;
data infmt3;
  retain fmtname "mondyyyy" type "I";
  do label = "1jan1900"d to "31dec2025"d;
    start = put (label,mondyyyy.);
    start = trim ( left (start) );
    start=compress(compress(lowercase(start), 's'), 'p');
    output;
  end;
hlo='O'; label=.; start=' '; output;
run;
proc format cntlin=infmt3;
run;
```

Macro – Part 4

```
data &outds;  
set &inds;  
&messy=compress(compress(lowercase(&messy), , 's'), , 'p');  
&clean=input(&messy, worddate.);  
  
if missing(&clean) then &clean=input(&messy, anydtdte.);
```

Macro – Part 5

```
if missing(&clean) then &clean=input(&messy, worddatx.);  
  if missing(&clean) then &clean=input(upcase(&messy),  
mondyyyy.);  
  if missing(&clean) then &clean=input(&messy, mondyy.);  
  if missing(&clean) then &clean=input(&messy, monddyyyy.);  
  if missing(&clean) then &clean=input(&messy, monddy.);  
  if missing(&clean) then &clean=input(&messy, ddmon.);  
  if missing(&clean) then &clean=input(&messy, dmon.);  
  if missing(&clean) then &clean=input(&messy, montddy.);  
  if missing(&clean) then &clean=input(&messy, montdy.);  
  format &clean date9.;  
run;  
%mend dates;
```


Problem Solved

- Parameters
 - DSIN, DSOUT,
 - MESSY, CLEAN
 - YEAR_START, MISSING_YEAR_START_DATE
 - MISSING_YEAR
 - DSTYLE
- Robust and Expandable
- Future Versions

Contact Information

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