Subject: JULDAY trivia
Posted by K. Bowman on Tue, 27 Mar 2001 19:45:40 GMT
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I've been updating some of my own date and time routines and found myself perusing the JULDAY man page. As an example, the man page gives Julian day numbers bracketing the period when the changeover from the Julian to Gregorian calendar was carried out:

```
PRINT, JULDAY(10,4,1582), JULDAY(10,5,1582), JULDAY(10,15,1582)

2299160 2299161 2299161
```

If I understand correctly, October 5-14 of 1582 never existed. JULDAY, howver, gives the following:

```
IDL> FOR day = 4, 16 DO PRINT, day, JULDAY(10, day, 1582)
      4     2299160
      5     2299161
      6     2299162
      7     2299163
      8     2299164
      9     2299165
     10     2299166
     11     2299167
     12     2299168
     13     2299169
     14     2299170
     15     2299161
     16     2299162
```

Not that I'm ever likely to ask for the Julian day of 5 October 1582, but shouldn't JULDAY choke here, as it does if you use year = 0?

```
IDL> PRINT, JULDAY(1,1,0)
% JULDAY: There is no year zero.
% Error occurred at:  JULDAY            87
  /flow0/local/rsi/idl_5.3/lib/julday.pro
```

Especially since CALDAT will not invert JULDAY during this period:

```
IDL> CALDAT, JULDAY(10, 10, 1582), month, day, year
% Compiled module: CALDAT.
IDL> PRINT, month, day, year
         10         20       1582
```

Ken