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Subject: Re: G4-related problem  
Posted by [MKatz843](#) on Mon, 11 Aug 2003 18:38:17 GMT  
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Not only can I reproduce this problem on my G4, running IDL 5.6 in OS X 10.2.6, I can add some additional information that's quite distressing.

I modified your code to give a little more output:

```
data0=fltarr(10000)+1.
for ii=0L, 10000L do begin $
  data1=data0
  ;--- look for 0s
  w0 = where(data1 EQ 0., count0)
  if min(w0) GT 0 then begin
    print, 'ii, count0 = ', ii, count0
    print, '      w0 = ', w0, FORMAT='(a,99i9)'
    print, ' data1(w0) = ', data1(w0), FORMAT='(a,99f9.4)'
    print, ''
  endif
  ;--- look for not (1 or 0)
  w1 = where((data1 NE 1.) AND (data1 NE 0.), count1)
  if min(w1) GT 0 then begin
    print, 'ii, count1 = ', ii, count1
    print, '      w1 = ', w1, FORMAT='(a,99i9)'
    print, ' data1(w1) = ', data1(w1), FORMAT='(a,99f9.4)'
    print, ''
  endif
end
```

On a G4 733, the output was different every time the program was run, but there is a striking predictability to the problem.

Here's the output of one test run

```
ii, count =      9187      8
  w0 =  4076  4077  4078  4079  4080  4081
4082  4083
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000

ii, count =     11494      8
  w0 =  8172  8173  8174  8175  8176  8177
8178  8179
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

```
ii, count =    13739      8
   w0 =    4076  4077  4078  4079  4080  4081
4082  4083
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

```
ii, count =    18309      8
   w0 =    2028  2029  2030  2031  2032  2033
2034  2035
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

```
ii, count =    25220      8
   w0 =    6124  6125  6126  6127  6128  6129
6130  6131
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

```
ii, count =    60714      8
   w0 =    8172  8173  8174  8175  8176  8177
8178  8179
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

```
ii, count =    66317      8
   w0 =    1004  1005  1006  1007  1008  1009
1010  1011
data1(w0) =  0.0000  0.0000  0.0000  0.0000  0.0000  0.0000
0.0000  0.0000
```

I noticed that there were usually strings of 8 zeros in a row (yet sometimes just 2), and that they corresponded most frequently to array index values 1004, 2028, 4076, 6124, 8172. Those values happen to be  $2^n - 20$  where  $n=10,11,12$ , and 13.  $6124 = 2^{12} + 2^{11} - 20$ .

The case where the numbers are neither zero nor one did not come up.

As designed, the test should produce no output whatsoever. On a P4 Linux machine I tested, there was no output.

This is terrible. Now what? I think the next step is to contact RSI and see if they can duplicate the problem internally.

M. Katz

Rudi Schaefer <rudi.schaefer@physik.uni-marburg.de> wrote in message news:<bh8393\$2as\$1@surz18.uni-marburg.de>...

- > I recently discovered a very nasty problem on my G4 (2\*867, Mac OS X 10.2.6) running IDL 5.6.
  - >
  - > The following code should not produce any output, if everything works.
  - > Unfortunately, this is not the case on my G4, where the variable assignment "data1=data0" produces messy data in a randomly fashion. So it works most of the time, but once in a while, the data in "data1" will be corrupted. Typically, there are some zeros showing up in the array and some other garbage.
  - >
  - > Here is the code in question:
  - >
  - > data0=fltarr(10000)+1.
  - > for ii=0L, 200000 do begin & \$
  - >   data1=data0 & \$
  - >   if min(where(data1 eq 0)) gt 0 then begin & \$
  - >     print, ii & ii=200001L & endif & \$
  - > endfor
  - >
  - > This problem did not show up on other machines I have tested (Compaq Alpha, a Windows PC or my iMac G3 running the same OS and IDL versions).
  - >
  - > So this can either be a G4-specific bug in IDL 5.6, a G4-specific bug in Mac OS X 10.2.6, or a hardware problem on my G4.
  - >
  - > Since I do not have a second G4 available, I would like to ask anyone with a G4 to test the code snippet given above. You can simply paste the code to the command line in IDL.
  - >
  - > Thank you,
  - > Rudi
-