
Subject: Specifying DOUBLE precision and using WHERE

Posted by [Johnny Lin](#) on Sat, 26 Jun 1999 07:00:00 GMT

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hi folks,

i'm using WHERE to do a test for a missing value in an array of data.
the funny thing is the result of WHERE seems to change depending on
whether I use the function DOUBLE to set the type of the missing
value field (or of the data i'm testing), or whether I set it using
"d" as the exponent. is there a difference in specifying the type
of a variable using "d" vs. DOUBLE? below is a sample of 4 different
cases that illustrate what i'm describing.

thanks!

cheers,
-Johnny Lin

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```
print,!version
{ sparc sunos unix 5.1 Apr 13 1998}
```

CASE #1 (missing and data are both FLOAT):

```
missing=-9.96921e+36
data=randomn(-34,20)
data[where(data lt 0.1)]=missing
print,data
; -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36
0.882273
; 0.784302 0.505769 0.271391 -9.96921e+36 -9.96921e+36
-9.96921e+36
; -9.96921e+36 -9.96921e+36 -9.96921e+36 0.280262 1.55990
-9.96921e+36
; 0.456618 -9.96921e+36
print,where(data eq missing)
; 0 1 2 3 4
9
; 10 11 12 13 14
17
; 19
```

```

CASE #2 (missing is DOUBLE using "d" exponent and data is FLOAT):
missing=-9.96921d+36
data=randomn(-34,20)
data[where(data lt 0.1)]=missing
print,data
; -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36
0.882273
; 0.784302 0.505769 0.271391 -9.96921e+36 -9.96921e+36
-9.96921e+36
; -9.96921e+36 -9.96921e+36 -9.96921e+36 0.280262 1.55990
-9.96921e+36
; 0.456618 -9.96921e+36
print,where(data eq missing)
; -1

```

```

CASE #3 (missing is made DOUBLE using DOUBLE fctn. and data is FLOAT):
missing=-9.96921e+36
missing=double(missing)
data=randomn(-34,20)
data[where(data lt 0.1)]=missing
print,data
; -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36 -9.96921e+36
0.882273
; 0.784302 0.505769 0.271391 -9.96921e+36 -9.96921e+36
-9.96921e+36
; -9.96921e+36 -9.96921e+36 -9.96921e+36 0.280262 1.55990
-9.96921e+36
; 0.456618 -9.96921e+36
print,where(data eq missing)
; 0 1 2 3 4
9
; 10 11 12 13 14
17
; 19

```

```

CASE #4 (missing is DOUBLE using "d" exponent and data is DOUBLE using
DOUBLE fctn.):
missing=-9.96921d+36
data=double(randomn(-34,20))
data[where(data lt 0.1)]=missing
print,data
; -9.9692100e+36 -9.9692100e+36 -9.9692100e+36 -9.9692100e+36
; -9.9692100e+36 0.88227326 0.78430188 0.50576895
; 0.27139148 -9.9692100e+36 -9.9692100e+36 -9.9692100e+36
; -9.9692100e+36 -9.9692100e+36 -9.9692100e+36 0.28026247
; 1.5598999 -9.9692100e+36 0.45661822 -9.9692100e+36
print,where(data eq missing)
; 0 1 2 3 4 9

```

```
; 10 11 12 13 14 17  
;  
; 19
```
