
Subject: Re: Trouble reading unformatted f77 (unix) integers?

Posted by [thompson](#) on Wed, 10 May 1995 07:00:00 GMT

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Brett Hennig <bretth@lovelace.maths.monash.edu.au> writes:

> Here's the problem:

> The F77 code:

```
>   open(unit=51,name='test1.dat',status='unknown',form='unformatted')
>   write(51)1,2,3
>   close(51)
>   end
```

> The idl code(that doesn't work):

```
> openr,n,'test1.dat',/get_lun,/f77_unformatted
> x=0 & y=0 & z=0
> readu,n,x,y,z
> print,x,y,z -----> 1    0    2
> free_lun,n
> end
```

> Code that does:

```
> openr,n,'test1.dat',/get_lun,/f77_unformatted
> x=0 & y=0 & z=0 & dum1=0 & dum2=0
> readu,n,x,dum1,y,dum2,z
> print,x,dum1,y,dum2,z -----> 1    0    2    0    3
> free_lun,n
> end
```

> is idl not interpreting the input correctly? or.. ??

Your problem is very simple. The default integer data type in FORTRAN takes up four bytes (INTEGER*4). In IDL parlance, this is known as a long integer. The default IDL integer type is a short integer which only takes up two bytes.

The following code should work correctly.

```
openr,n,'test1.dat',/get_lun,/f77_unformatted
x=0L & y=0L & z=0L
readu,n,x,y,z
print,x,y,z
free_lun,n
end
```

As should this.

```
openr,n,'test1.dat',/get_lun,/f77_unformatted
```

```
xyz=lonarr(3)
readu,n,xyz
print,xyz
free_lun,n
end
```

Bill Thompson

Subject: Re: Trouble reading unformatted f77 (unix) integers?

Posted by [evans](#) on Wed, 10 May 1995 07:00:00 GMT

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In article <3oqb90\$12l@harbinger.cc.monash.edu.au>, Brett Hennig
<bretth@lovelace.maths.monash.edu.au> writes:

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> end
```

The problem is that x, y, z are being initialized as integers
(2 bytes) rather than longs (4 bytes), while the fortran program
is writing out 4-byte integers.

Replacing the line

```
x=0 & y=0 & z=0
```

with

```
x=0L & y=0L & z=0L
```

will make the idl code work correctly.

Cheers!

Ian

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Disclaimer: The statements made herein reflect solely the opinions of the author, and should in no way be construed as being representative of the views of the Space Telescope Science Institute, the Association of Universities for Research in Astronomy, or the National Aeronautics and Space Administration.

Subject: Re: Trouble reading unformatted f77 (unix) integers?

Posted by [mallozzi](#) on Wed, 10 May 1995 07:00:00 GMT

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>   close(51)
>   end
```

IDL's integers are 2 bytes long. I think when you write out the fortran integers as above, it takes them to be INTEGER*4. i.e. 4 bytes. The byte sizes MUST match when you write/read like this. Try defining the variables you are going to read in IDL as LONGs, which are 4 byte integers.
