
Subject: TRICKY TASK USING AWK

Posted by [Sapna Mishra](#) on Fri, 26 Feb 2016 09:20:18 GMT

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Hello all,

What I have is:

```
IDL> i=1
```

```
IDL> $ awk -v var="$i" '{print $var}' tmp1.dat> tmp3.dat
```

Upto this it is working ok. now what I want:

```
IDL> fname[i]='QB0332_CHIP1_GRIS_600V_SCIENCE_SKY_SPECTRUM_FORS1.  
2007_11_11T06_43_02.032redwave.dat'
```

```
IDL> $ awk -v var="$i" '{print $var}' fname[i]> fnameout[i]
```

Can I do it some how??? I found it most tricky. Basically can we use variables defined inside idl into shell commands.

Anyone know how to solve this tricky job???

Subject: Re: TRICKY TASK USING AWK

Posted by [dg86](#) on Fri, 26 Feb 2016 12:03:57 GMT

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On Friday, February 26, 2016 at 4:20:20 AM UTC-5, Sapna Mishra wrote:

> Hello all,

>

> What I have is:

>

> IDL> i=1

> IDL> \$ awk -v var="\$i" '{print \$var}' tmp1.dat> tmp3.dat

>

> Upto this it is working ok. now what I want:

>

> IDL> fname[i]='QB0332_CHIP1_GRIS_600V_SCIENCE_SKY_SPECTRUM_FORS1.
2007_11_11T06_43_02.032redwave.dat'

> IDL> \$ awk -v var="\$i" '{print \$var}' fname[i]> fnameout[i]

>

> Can I do it some how??? I found it most tricky. Basically can we use variables defined inside idl into shell commands.

>

> Anyone know how to solve this tricky job???

Without delving too deeply into the details of your specific application, it sounds like you want to build up a string containing the desired command, and then to use SPAWN to

execute that command. The general idea is

```
IDL> cmd = 'awk my_awk_command ' + fname[i] + ' > ' + fnameout[i]
IDL> spawn, cmd
```

Note that you'll have to be careful about the quotation marks in the IDL string that I've called 'cmd'. To get this right, you'll have to read the documentation on IDL strings, specifically how to escape special characters (such as quotation marks).

You can double-check that you've built up the command properly by printing the string:

```
IDL> print, cmd
```

This should print exactly the command that you'd like to execute.

Finally, you'll have to be careful to insert spaces between the substrings that make up your command so that the result is syntactically correct for execution by the shell. In my sketched solution, I've deliberately placed a space after the placeholder pseudocode 'my_awk_command'.

All the best,

David

Subject: Re: TRICKY TASK USING AWK
Posted by [Sapna Mishra](#) on Fri, 26 Feb 2016 14:55:39 GMT
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if my_awk command is : -v var="\$i" '{print \$var}' then how i will proceed??

I am doing:

```
cmd = 'awk -v var="$i" '{print $var}' ' + fname[i] + ' > ' + fnameout[i]
and on:
print,cmd I am getting:
IDL> print,cmd
% PRINT: Variable is undefined: CMD.
% Execution halted at: $MAIN$
```

Subject: Re: TRICKY TASK USING AWK
Posted by on Fri, 26 Feb 2016 15:09:57 GMT
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Den fredag 26 februari 2016 kl. 15:55:43 UTC+1 skrev Sapna Mishra:
> if my_awk command is : -v var="\$i" '{print \$var}' then how i will proceed??

```
>
> I am doing:
>
> cmd ='awk -v var="$i" '{print $var}' ' + fname[i] + ' > ' + fnameout[i]
> and on:
> print,cmd I am getting:
> IDL> print,cmd
> % PRINT: Variable is undefined: CMD.
> % Execution halted at: $MAIN$
```

You need to escape the single quotes inside the single-quoted string:

```
IDL> cmd ='awk -v var="$i" "{print $var}" '
IDL> print,cmd
awk -v var="$i" '{print $var}'
```

Subject: Re: TRICKY TASK USING AWK

Posted by [Sapna Mishra](#) on Mon, 29 Feb 2016 15:57:43 GMT

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Hello,

I am using this part of IDL

```
for i=1,c do begin
  fnameo[i]='tmp'
  cmd ='awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
  spawn, cmd
endfor
```

where tmp is a new file i want to create, it is showing error fnameo[i] not exist.
Where I am wrong???

Subject: Re: TRICKY TASK USING AWK

Posted by [Paul Van Delst\[1\]](#) on Mon, 29 Feb 2016 16:07:28 GMT

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Hello,

On 02/29/16 10:57, Sapna Mishra wrote:

```
> Hello,
>
> I am using this part of IDL
>
> for i=1,c do begin
```

```
> fnameo[i]='tmp'
> cmd ='awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
> spawn, cmd
> endfor
>
> where tmp is a new file i want to create, it is showing error fnameo[i] not exist.
> Where I am wrong???
```

I'm not an awk user so forgive the silly question, but what is the awk command above supposed to do?

It seems pretty simple (despite my lack of awknowledge) - isn't there an IDL way of doing what you want and skip using SPAWN altogether?

cheers,

paulv

Subject: Re: TRICKY TASK USING AWK

Posted by [Sapna Mishra](#) on Mon, 29 Feb 2016 16:58:28 GMT

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Actually I want to grep a particular column say column 2 from fname[i] and want to save it to fnameo[i] as an output. In IDL I don't know how to read any file having unknown numbers of columns because in READCOL to read file we need to mention a variable for each column in which particular column will get stored.

So this is why i wanted to grep value of unknown numbers of column into another file.

Awk command grep columns.

Subject: Re: TRICKY TASK USING AWK

Posted by [Heinz Stege](#) on Mon, 29 Feb 2016 17:33:17 GMT

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Does the error message really contain the string "fnameo[i]"? If yes, then this the error message must stem from IDL, not from the OS.

What happens if you replace the line

```
| cmd ='awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
by
| print,'awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
?
```

Heinz

Subject: Re: TRICKY TASK USING AWK

Posted by [wlandsman](#) on Mon, 29 Feb 2016 17:44:40 GMT

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On Monday, February 29, 2016 at 11:58:32 AM UTC-5, Sapna Mishra wrote:

> Actually I want to grep a particular column say column 2 from fname[i] and want to save it to fnameo[i] as an output. In IDL I don't know how to read any file having unknown numbers of columns because in READCOL to read file we need to mention a variable for each column in which particular column will get stored.

Here is a short IDL program to read the number of columns in a file, e.g.

```
ncol = findnumcol('myfile.dat')
```

```
function findnumcol, file
; Return the number of columns of data in a file
; Just reads the first line and assume rest of the file
; is the same. Could add code to skip header lines
openr,lun,file,/get_lun
st = "
readf,lun,st
free_lun,lun
tmp = strsplit(st,count=ncol)
return,ncol
end
```

Subject: Re: TRICKY TASK USING AWK

Posted by [Sapna Mishra](#) on Tue, 01 Mar 2016 06:08:00 GMT

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Hi wlandsman ,

Is this code reads the contents of columns or it returns the no. of columns to be read???

If it is the case then my problem remains unsolved because i want to READ columns from a file without knowing how much column does this file has. Say If I have infinite number of columns And I want to read 100th column how would I do that, shall I need to give 100 parameters in Readcol?? This seems tough to me.

Subject: Re: TRICKY TASK USING AWK

Posted by [Sapna Mishra](#) on Tue, 01 Mar 2016 06:12:06 GMT

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Hi Heinz Stege ,

Error is as following:

```
IDL> cmd ='awk -v var="$i" '{print $var}' ' + fname[i] + ' > ' + fnameo[i]
% Variable is undefined: I.
% Execution halted at: $MAIN$
```

```
IDL> print,'awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
% Variable is undefined: I.
% Execution halted at: $MAIN$
IDL>
```

Subject: Re: TRICKY TASK USING AWK

Posted by on Tue, 01 Mar 2016 09:37:34 GMT

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Den tisdag 1 mars 2016 kl. 07:12:13 UTC+1 skrev Sapna Mishra:

```
> Hi Heinz Stege ,
> Error is as following:
>
> IDL> cmd ='awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
> % Variable is undefined: I.
> % Execution halted at: $MAIN$
> IDL> print,'awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
> % Variable is undefined: I.
> % Execution halted at: $MAIN$
> IDL>
```

I think you need to do that inside the loop to get a useful error message. Or just set i to something between 0 and c.

Subject: Re: TRICKY TASK USING AWK

Posted by on Tue, 01 Mar 2016 09:50:28 GMT

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Den tisdag 1 mars 2016 kl. 10:37:36 UTC+1 skrev Mats Löfdahl:

```
> Den tisdag 1 mars 2016 kl. 07:12:13 UTC+1 skrev Sapna Mishra:
>> Hi Heinz Stege ,
>> Error is as following:
>>
>> IDL> cmd ='awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
>> % Variable is undefined: I.
>> % Execution halted at: $MAIN$
>> IDL> print,'awk -v var="$i" "{print $var}" ' + fname[i] + ' > ' + fnameo[i]
>> % Variable is undefined: I.
>> % Execution halted at: $MAIN$
>> IDL>
```

```
>
> I think you need to do that inside the loop to get a useful error message. Or just set i to
something between 0 and c.
```

Just guessing here, since we don't have the actual error message where IDL complains about the

non-existence of `fnameo[i]`: is `fnameo` an array with `c` elements? In that case, your loop should go from 0 to `c-1` rather than from 1 to `c`.

Or, since the complaint was only about `fnameo` and not `fname`, and you set `fnameo[i]` to 'tmp' inside the loop: is perhaps only `fname` an array while `fnameo` is undefined before you enter the loop? In that case, just substitute "fnameo" for "`fnameo[i]`" in the loop. Twice, of course.

Subject: Re: TRICKY TASK USING AWK

Posted by [wlandsman](#) on Tue, 01 Mar 2016 15:39:33 GMT

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On Tuesday, March 1, 2016 at 1:08:03 AM UTC-5, Sapna Mishra wrote:

> Hi wlandsman ,

> Is this code reads the contents of columns or it returns the no. of columns to be read???

Why don't you try it and find out yourself? (It does the same thing as your spawn to "awk".)

> If it is the case then my problem remains unsolved because i want to READ columns from a file without knowing how much column does this file has. Say If I have infinite number of columns And I want to read 100th column how would I do that, shall I need to give 100 parameters in Readcol?? This seems tough to me.

If your data is all numeric then the easiest thing is to use `READ_ASCII`

```
output = read_ascii('myfile.dat')
```

the output array will contain all the data. Then just select the column of the array you want.

Subject: Re: TRICKY TASK USING AWK

Posted by [wlandsman](#) on Wed, 02 Mar 2016 03:36:38 GMT

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`READCOL` does not care how many columns are in a file. Say a file "bigtable.dat" has 100 columns and we just want to read the 5th column. This would work.

```
IDL> readcol,'bigtable.dat',v5,f='x,x,x,x,f'
```

Unfortunately, one can't abbreviate the format as `f = '4x,f'` though this feature wouldn't be too hard to add.

On Tuesday, March 1, 2016 at 1:08:03 AM UTC-5, Sapna Mishra wrote:

Say If I have infinite number of columns And I want to read 100th column how would I do that, shall I need to give 100 parameters in Readcol?? This seems tough to me.
