
Subject: Re: failed matrix inversion returns input-- interesting
Posted by [Bringfried Stecklum](#) on Fri, 14 Jul 2006 07:14:20 GMT
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Ed Hyer wrote:

```
> Can someone explain this behavior?
> IDL> testm=[[0,0,0,0],[0,1,0,0],[0,0,1,0],[0,0,0,1]]
> IDL> testmi=invert(testm,status)
> IDL> print,status; 0=success, 1=fail, 2=pivot used
>      1
> IDL> print,testmi
>      0.00000    0.00000    0.00000    0.00000
>      0.00000    1.00000    0.00000    0.00000
>      0.00000    0.00000    1.00000    0.00000
>      0.00000    0.00000    0.00000    1.00000
>
> Is there any reason in creation why IDL simply copies the input into
> the output if it cannot do the inversion? That seems, well, malevolent,
> unless I'm missing something.
>
```

I would not call this behavior malevolent. For a singular matrix the inversion is invalid. So the result is meaningless anyway and it does not matter whether IDL returns a fictitious array or the input matrix. When solving linear equations it is always recommended to check the condition number of the matrix using `cond` and use singular value decomposition in case of an ill-behaved matrix.

regards,

B.St.

File Attachments

1) [stecklum.vcf](#), downloaded 110 times
