
Subject: Re: Column vector matrix creation from PC image
Posted by [Wout De Nolf](#) on Wed, 22 Jun 2011 17:05:29 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Wed, 22 Jun 2011 04:05:14 -0700 (PDT), Lavanya
<lavanya3k@gmail.com> wrote:

```
> Hi,  
>  
> I am trying to create a column vector of the form  
>  
> E = [[ 1, 1, 1, .....1], [e1,e2, .... ep], .....[e1(n),  
> e2(n)....ep(n)]]  
>  
> where the first row values are one, p user input values. Now i need to  
> fill the matrix with random values that are obtained from an PC  
> image.  
>  
> Here is the code for reference:  
>  
> covMatrix = Correlate(image11, /COVARIANCE, /DOUBLE)  
> eigenvalues = EIGENQL(covMatrix, EIGENVECTORS=eigenvectors, /DOUBLE)  
> Print, eigenvalues  
> Print, 'First Component (%): ', eigenvalues[0]/Total(eigenvalues)*100  
>  
> for i=0, bands-1 do begin  
>   pc = eigenvectors ## Transpose(image11)  
>   pc1[*,*,i] = Reform(pc[:,i], rows, cols)  
> ; pc1[*,*,i] = Reform(temporary(pc[:,i]), dims[0], dims[1],4)  
> endfor  
>  
> p = 30  
>  
> TestMatrix = fltarr(p,p)  
> TestMatrix(*,0) = 1  
> idx1 = fltarr(1,p)  
> ;data = pc(*,p-1)  
>  
> for i=0,p-1 do begin  
>   seed = 100L  
>   idx = floor(randomu(seed,p)) + 1  
>   TestMatrix(1:p,*) = pc(idx,*) ; error at  
> this place  
>   idx1(i) = idx;  
> endfor  
>  
> Finally, i need to construct TestMatrix
```

Some comments:

1. Use square brackets for array subscripts.

2. Why are you calculating pc within the loop? Should pc1 be pc? Also check the function MATRIX_MULTIPLY to avoid ## with TRANSPOSE.

```
> for i=0, bands-1 do begin;  
>   pc = eigenvectors ## Transpose(image11)  
>   pc1[*,*,i] = Reform(pc[*,i], rows, cols)  
> endfor
```

3. The reason why this fails is because TestMatrix has p columns, so subscripting [1:p,*] won't work.

```
> TestMatrix(1:p,*) = pc(idx,*) ; error at this place
```

4. Define the seed outside the loop, otherwise you always get the same "random" numbers.

5. To encourage people to answer your question, give a "minimal working example" that we just have to copy&run. Filling in the gaps is just too enjoying. Problems are often solved just by making a MWE.
