

Addin for exchanging matrices between EXCEL[®] and EULER

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by Foxes Team

Introduction

EULER is a very nice freeware program for quick and interactive computations with vectors and matrices, real and complex numbers. In general, EULER is a numerical matrix system. (EULER is not a MatLab clone, but very similar to this program).

Many times we need to compare matrix results in different environment.

This little addin allows the exchange of matrices between Euler and Excel

How to install it

Unzip and place all the files in a folder of your choice. This addin are contained entirely in this directory. Your system is not modified in any other way.

Now, follow the usual procedure for installing Excel Addins:

- 1) Open Excel
- 2) Select **<Addins...>** from the **<Tools>** menu
- 3) In the Addins Manager, search for and select **euler_excel.xla**
- 4) Click OK

If all goes right you should see a welcome pop-up and two new entries added at the **<Edit>** menu

- Copy Matrix to EULER
- Paste Matrix from EULER

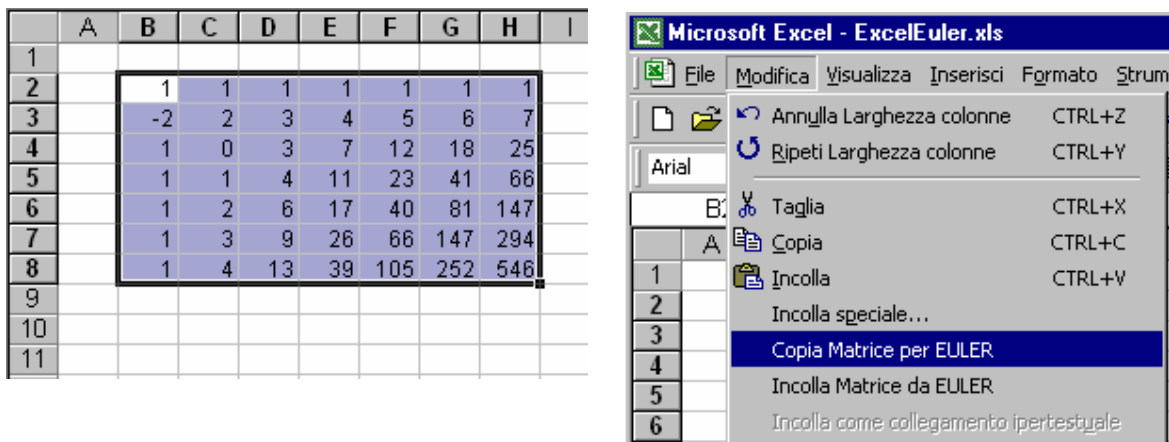
(If you have an Italian version of Excel you should see this command in Italian)

How to use it

Use these commands is very easy.

Copy Matrix from Excel to Euler

Select in the matrix that you want to export and then click on the command " Copy Matrix to EULER" in **Edit** menu



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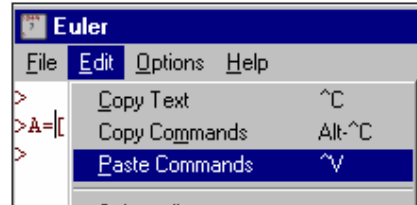
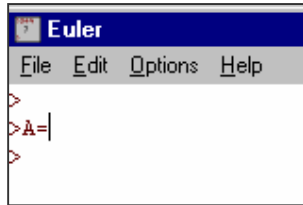
Now, switch to Euler text window

In Euler you have to assign a matrix or a vector to a variable.

Assume to assign the above matrix to "A" variable

At the Euler prompt write `A =`

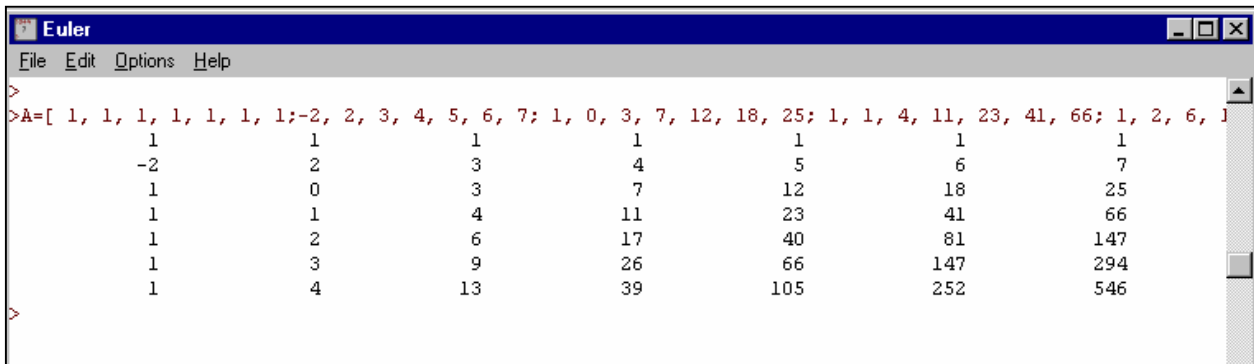
Now press CTRL+V or click the "Paste commands" from the Edit menu



The program will copy the following string after the assign "=" symbol

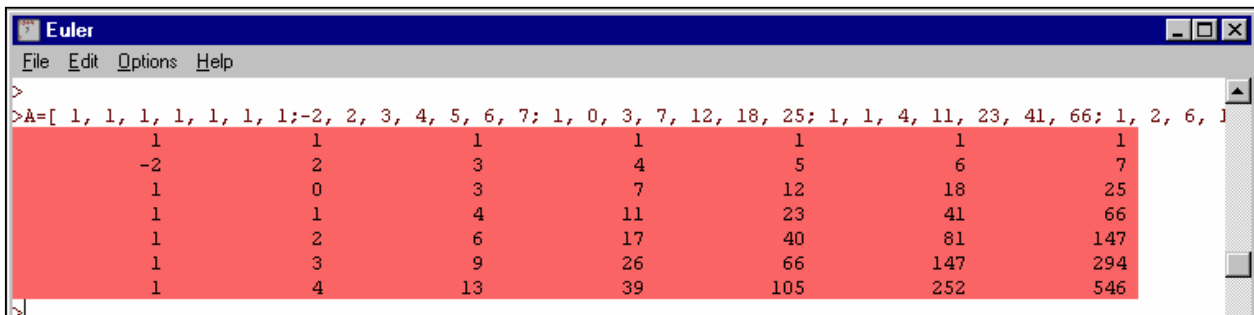
```
A = [ 1, 1, 1, 1, 1, 1, 1, 1;-2, 2, 3, 4, 5, 6, 7; 1, 0, 3, 7, 12, 18, 25; 1, 1, 4, 11, 23, 41, 66; 1, 2, 6, 17, 40, 81, 147; 1, 3, 9, 26, 66, 147, 294; 1, 4, 13, 39, 105, 252, 546]
```

Pressing ENTER you will complete the assignment. The Euler screen will look like the following



Copy Matrix from Euler to Excel

We can perform the reverse operation: copy a vector or a matrix from Euler into Excel. To do this simply select the matrix output



Press CTRL+C or click the "Copy Text" from the **Edit** menu

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Now, switch to EXCEL window and select the right-upper cell that you want and click the "Paste Matrix from EULER" from the **Edit** menu
All the cells will be filled with the matrix entries

	A	B	C	D	E	F	G	H	I
1									
2		1	1	1	1	1	1	1	
3		-2	2	3	4	5	6	7	
4		1	0	3	7	12	18	25	
5		1	1	4	11	23	41	66	
6		1	2	6	17	40	81	147	
7		1	3	9	26	66	147	294	
8		1	4	13	39	105	252	546	
9									

Wrapped matrix

When the matrix becomes larger, Euler automatically wraps the matrix columns. The paste command of this addin rearranges the columns before copying them into Excel

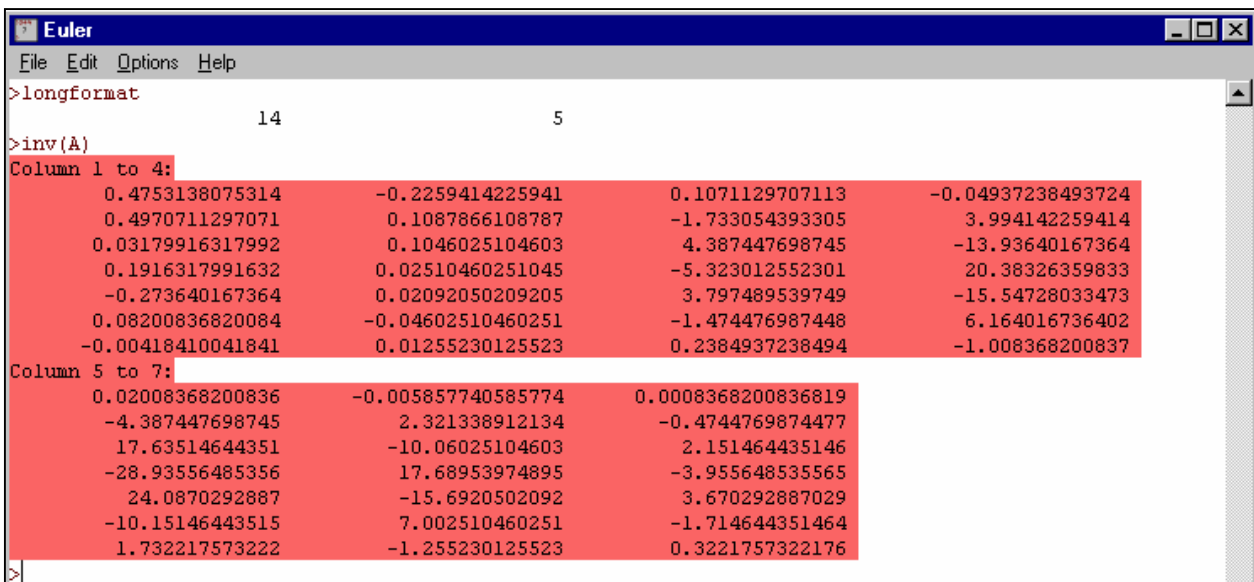
Example Compute the inverse of A matrix

Give

```
>longformat
```

```
>inv(A)
```

The result will show in the wrapped format: first the columns 1 to 4 and then the columns 5 to 7
If you want to port this matrix into Excel simply select all matrix output.



```
Euler
File Edit Options Help
>longformat
                14                5
>inv(A)
Column 1 to 4:
0.4753138075314    -0.2259414225941    0.1071129707113    -0.04937238493724
0.4970711297071    0.1087866108787    -1.733054393305    3.994142259414
0.03179916317992    0.1046025104603    4.387447698745    -13.93640167364
0.1916317991632    0.02510460251045    -5.323012552301    20.38326359833
-0.273640167364    0.02092050209205    3.797489539749    -15.54728033473
0.08200836820084    -0.04602510460251    -1.474476987448    6.164016736402
-0.00418410041841    0.01255230125523    0.2384937238494    -1.008368200837
Column 5 to 7:
0.02008368200836    -0.005857740585774    0.0008368200836819
-4.387447698745    2.321338912134    -0.4744769874477
17.63514644351    -10.06025104603    2.151464435146
-28.93556485356    17.68953974895    -3.955648535565
24.0870292887    -15.6920502092    3.670292887029
-10.15146443515    7.002510460251    -1.714644351464
1.732217573222    -1.255230125523    0.3221757322176
```

Now press the CTRL+C

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Now, switch to EXCEL window and select the right-upper cell that you want and click the " Paste Matrix from EULER" from the **Edit** menu
All the cells will be filled with the matrix entries

	A	B	C	D	E	F	G	H	I
1									
2		0.47531	-0.22594	0.10711	-0.04937	0.02008	-0.00586	0.00084	
3		0.49707	0.10879	-1.73305	3.99414	-4.38745	2.32134	-0.47448	
4		0.0318	0.1046	4.38745	-13.9364	17.6351	-10.0603	2.15146	
5		0.19163	0.0251	-5.32301	20.3833	-28.9356	17.6895	-3.95565	
6		-0.27364	0.02092	3.79749	-15.5473	24.087	-15.6921	3.67029	
7		0.08201	-0.04603	-1.47448	6.16402	-10.1515	7.00251	-1.71464	
8		-0.00418	0.01255	0.23849	-1.00837	1.73222	-1.25523	0.32218	
9									
10									

Euler_Excel.xla is freeware. Have fun with it

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