

指令書

VECTOR

Multiple vector support

指令:Calc (\$va \$vb)

Output
result = [-24 30 -74]

Input
Calc \$v0 + \$v1

Vector
\$v0 [-51.0,91.0,8.0]
\$v1 [27.0,-61.0,-82.0]
\$v10 [100.0,-29.0,95.0,-31.0,78.0,-9.0,-17.0,-57.0,-
\$v11 [-90.0,0.0,-14.0,100.0,63.0,-3.0,79.0,-73.0,-22
\$v12 [-52.0,43.0,72.0,-44.0,46.0,-73.0,68.0,-73.0,18
\$v13 [-89.0,-39.0,-91.0,-61.0,44.0,45.0,76.0,17.0,-8
\$v2 [-16.0,42.0,90.0]
\$v3 [58.0,-3.0,-61.0]
\$v4 [-14.0,-75.0,-96.0,-42.0,-37.0,31.0,92.0,88.0,-8
\$v5 [-65.0,-68.0,33.0,79.0,3.0,41.0,-70.0,91.0,8.0,3
\$v6 [-63.0]
\$v7 [-49.0,-96.0,85.0,31.0,87.0,-68.0,85.0,59.0,16.0
\$v8 [64.0,-37.0,63.0,58.0,71.0,1.0,27.0,91.0,-11.0,-4
\$v9 [6.0,-45.0,-51.0,-10.0,-55.0,61.0,98.0,-94.0,7.0,

Dot of Vector

指令:Calc (\$v0 * \$vb)

Output
result = [21251]

Input
Calc (\$v8 + \$v9 + \$v10 + \$v11 + \$v12) * \$v13
Calc (\$v8 + \$v9 + \$v10 + \$v11 + \$v12) * \$v13
Calc \$v0 * \$v1

Vector
\$v0 [14.0,21.0,77.0,95.0,76.0]
\$v1 [51.0,6.0,81.0,62.0,109.0]
\$v2 [-86.0,4.0,-81.0,64.0,64.0,45.0,-70.0,32.0,4.0,9.
\$v3 [8.0,40.0,33.0,-65.0,-75.0,100.0,-66.0,-94.0,12.
\$v4 [-47.0,-37.0,-77.0,88.0,29.0,-4.0,28.0,9.0,30.0,9
\$v5 [40.0,17.0,63.0,76.0,98.0,-100.0,73.0,23.0,98.0

Vector addition

指令: Calc \$va + \$vb

```
Output
result = [ 69 -167 33 ]

Input
Calc ($v8 + $v9 + $v10 + $v11 + $v12) * $v13
Calc ($v8 + $v9 + $v10 + $v11 + $v12) * $v13
Calc $v0 * $v1
Calc $v2 * $v3
Calc $v4 * $v5
Calc $v5 * $v5
Calc $v4 * $v5
Calc $v0 * $v1
Calc $v0 + $v1
|

Vector
$v0 [-11.0,-90.0,-65.0]
$v1 [80.0,-77.0,98.0]
$v2 [100.0,-43.0,-17.0,-7.0,53.0,64.0,-80.0,-65.0,-2.0]
$v3 [47.0,12.0,-63.0,20.0,-40.0,-74.0,-58.0,79.0,-86.0]
$v4 [-34.0,-41.0,-88.0,-41.0,-91.0,1.0,53.0,26.0,-82.0]
$v5 [-78.0,-77.0,28.0,-34.0,31.0,50.0,17.0,48.0,-53.0]
```

Scalar Multiplication with vector

指令: Calc (\$va * \$vb)

```
Output
result = [ -4514 -4941 -4392 -4087 -3721 -2257 -2257 -3477 -3050 4819 ]

Input
Calc ($v8 + $v9 + $v10 + $v11 + $v12) * $v13
Calc ($v8 + $v9 + $v10 + $v11 + $v12) * $v13
Calc $v0 * $v1
Calc $v2 * $v3
Calc $v4 * $v5
Calc $v5 * $v5
Calc $v4 * $v5
Calc $v0 * $v1
Calc $v0 + $v1
Calc $v0 * $v1
Calc $v2 * $v3
Calc $v4 * $v5
|

Vector
$v0 [-47.0,60.0,-2.0]
$v1 [54.0]
$v2 [-93.0,35.0,-14.0,-10.0,22.0,-89.0,-37.0,55.0,39.0]
$v3 [-92.0]
$v4 [-74.0,-81.0,-72.0,-67.0,-61.0,-37.0,-37.0,-57.0,]
$v5 [61.0]
```

Norm

指令: Norm (\$va)

Output
Norm(\$v2) = 361.250605535825

Input
Calc \$v2 * \$v3
Clac \$v4 * \$v5
Calc \$v5 * \$v5
Calc \$v4 * \$v5
Calc \$v0 * \$v1
Calc \$v0 + \$v1
Calc \$v0 * \$v1
Calc \$v2 * \$v3
Calc \$v4 * \$v5
Norm \$v0
Norm \$v1
Norm \$v2

Vector
\$v0 [56.0,-15.0,-82.0]
\$v1 [75.0,4.0,89.0,28.0,92.0,-52.0,35.0,-42.0,35.0,3
\$v2 [-10.0,-8.0,33.0,54.0,-30.0,33.0,-17.0,69.0,67.0

Noraml

指令: Normal (\$va)

Output
Normal(\$v2) = [0.209441172115896 0.204888103156855 0.0887848447

Input
Calc \$v4 * \$v5
Calc \$v0 * \$v1
Calc \$v0 + \$v1
Calc \$v0 * \$v1
Calc \$v2 * \$v3
Calc \$v4 * \$v5
Norm \$v0
Norm \$v1
Norm \$v2
Normal \$v0
Normal \$v1
Normal \$v2

Vector
\$v0 [-87.0,34.0,-54.0]
\$v1 [-57.0,93.0,82.0,97.0,70.0,12.0,96.0,81.0,-79.0,
\$v2 [92.0,90.0,39.0,48.0,-40.0,36.0,81.0,-94.0,9.0,8

Cross

指令: Cross (\$va \$vb)

Output
Cross(\$v4,\$v5) = [-3309 -9778 2998]

Input
Cross \$v0 \$v1
Cross \$v2 \$v3
Cross \$v4 \$v5
|

Vector
\$v0 [26 0,14 0,62 0]
\$v1 [-75 0,17 0,-62 0]
\$v2 [-30 0,35 0,35 0]
\$v3 [97 0,-24 0,-38 0]
\$v4 [82 0,-44 0,-53 0]
\$v5 [70 0,-1 0,74 0]

Com

指令: Com (\$va \$vb)

Output
Comp(\$v2,\$v3) = [-38.2747856648411]

Input
Com \$v0 \$v1
Com \$v2 \$v3
Com \$v4 \$v5
Com \$v2 \$v3
|

Vector
\$v0 [1 0,85 0,-99 0]
\$v1 [-92 0,59 0,16 0]
\$v2 [-19 0,-92 0,-12 0,-39 0,50 0,-98 0,45 0,-72 0,60 0]
\$v3 [72 0,42 0,65 0,-78 0,25 0,-54 0,-87 0,84 0,70 0]
\$v4 [59 0,69 0,57 0,-42 0,94 0,98 0,-60 0,37 0,-12 0]
\$v5 [8 0,85 0,93 0,-92 0,49 0,65 0,-77 0,23 0,-79 0,]

Proj

指令: Proj (\$va \$vb)

Output
Proj(\$v6,\$v7) = [1.1345397324941 1.1345397324941 1.1345397324941

Input
Com \$v0 \$v1
Com \$v2 \$v3
Com \$v4 \$v5
Com \$v2 \$v3
Proj \$v0 \$v1
Proj \$v2 \$v3
Proj \$v4 \$v5
Proj \$v6 \$v7
|

Vector
\$v0 [0,0,0,1,0]
\$v1 [0,0,0,1,0]
\$v2 [4,0,5,0,3,0,6,0,0,0,5,0,5,0,9,0,9,0,4,0]
\$v3 [2,0,0,0,3,0,5,0,0,0,1,0,6,0,9,0,8,0,3,0]
\$v4 [9,0,0,0,0,9,0,3,0,5,0,5,0,4,0,5,0,3,0,8,0,5,0,1]
\$v5 [0,0,2,0,6,0,5,0,2,0,3,0,5,0,8,0,7,0,1,0,2,0,2,0,2]
\$v6 [9,0,1,0,5,0,7,0,3,0,6,0,0,0,0,0,0,0,8,0,8,0,3,0,7]
\$v7 [2,0,2,0,2,0,3,0,9,0,3,0,0,0,0,2,0,8,0,4,0,5,0,2,0,9]

Area

指令: Area (\$va \$vb)

Output
Area(\$v0,\$v1) = [6.16441400296898]

Input
Area \$v0 \$v1
Area \$v0 \$v1

Vector
\$v0 [1,0,4,0,2,0]
\$v1 [2,0,6,0,6,0]
\$v2 [7,0,2,0,8,0,8,0,3,0,4,0,6,0,8,0,6,0,5,0]
\$v3 [3,0,4,0,7,0,8,0,7,0,0,0,6,0,4,0,4,0,1,0]
\$v4 [5,0,5,0,3,0,4,0,4,0,0,0,8,0,0,0,4,0,8,0,3,0,6,0,8]
\$v5 [8,0,3,0,2,0,3,0,3,0,5,0,5,0,3,0,3,0,5,0,6,0,9,0,7]
\$v6 [3,0,5,0,5,0,1,0,5,0,6,0,4,0,8,0,7,0,3,0,4,0,3,0,7]
\$v7 [5,0,0,0,7,0,8,0,9,0,9,0,5,0,2,0,1,0,5,0,5,0,7,0,0]

isParallel

指令 : isParallel (\$va \$vb)

Output

```
isParallel($v6,$v7) = Yes
```

Input

```
isParallel $v4 $v5  
isParallel $v6 $v7
```

Vector

```
$v0 [0,0,0,0,0]  
$v1 [0,0,15,0,21,0]  
$v2 [0,0,36,0,6,0,0,42,0,18,0,36,0,18,0,36,0,0,0]  
$v3 [0,0,6144,0,1024,0,0,0,7168,0,3072,0,6144,0,3072,0,0,0,0]  
$v4 [891,0,792,0,693,0,792,0,297,0,594,0,495,0,495,0,0,0,0]  
$v5 [2304,0,2048,0,1792,0,2048,0,768,0,1536,0,1280,0,1536,0,0,0,0]  
$v6 [66,0,0,0,66,0,396,0,594,0,198,0,264,0,594,0,594,0,0]  
$v7 [77,0,0,0,77,0,462,0,693,0,231,0,308,0,693,0,693,0,0]
```

isOrthogonal

指令 : isOrthogonal
\$va \$vb

Output

```
isOrthogonal($v6,$v7) = No
```

Input

```
Area $v0 $v1  
Area $v0 $v1  
isOrthogonal $v0 $v1  
isOrthogonal $v2 $v3  
isOrthogonal $v4 $v5  
isOrthogonal $v6 $v7
```

Vector

```
$v0 [-6,0,0,0,6,0]  
$v1 [6,0,4,0,6,0]  
$v2 [-2,0,-1,0,-8,0,-7,0,-9,0,-1,0,-1,0,0,0,-4,0,-1,0]  
$v3 [2,0,1,0,8,0,7,0,9,0,1,0,1,0,0,0,4,0,1,0]  
$v4 [0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]  
$v5 [0,9,0,9,0,0,7,0,2,0,4,0,5,0,9,0,4,0,9,0,3,0,7,0]  
$v6 [0,7,0,9,0,3,0,6,0,4,0,8,0,7,0,1,0,8,0,9,0,5,0,8,0]  
$v7 [0,7,0,5,0,2,0,6,0,0,0,6,0,6,0,7,0,8,0,9,0,7,0,5,0]
```

angle

指令: angle (\$va \$vb)

Output
angle(\$v4,\$v5) = [85.7187142202751]

Input
Area \$v0 \$v1
Area \$v0 \$v1
isOrthogonal \$v0 \$v1
isOrthogonal \$v2 \$v3
isOrthogonal \$v4 \$v5
isOrthogonal \$v6 \$v7
angle \$v0 \$v1
angle \$v2 \$v3
angle \$v4 \$v5
|

Vector
\$v0 [-71.3,11.8,-99.0]
\$v1 [53.3,69.7,83.3]
\$v2 [97.3,1.0,-45.7,-79.8,1.5,17.1,52.5,-83.4,32.3,3.3]
\$v3 [26.0,-26.5,-52.1,15.7,73.3,-18.6,-77.4,-11.2,-3.9]
\$v4 [-15.0,-76.1,-0.9,41.2,-51.2,57.0,-85.1,-21.2,-9.9]
\$v5 [70.6,-11.5,80.8,-93.3,6.4,43.2,-64.1,-32.6,-62.4]

pN

指令 : pN (\$va \$vb)

Output
4,\$v5) = [696.547851494492 -11903.8032043648 -1640.21336848361]

Input
Area \$v0 \$v1
Area \$v0 \$v1
isOrthogonal \$v0 \$v1
isOrthogonal \$v2 \$v3
isOrthogonal \$v4 \$v5
isOrthogonal \$v6 \$v7
angle \$v0 \$v1
angle \$v2 \$v3
angle \$v4 \$v5
pN \$v0 \$v1
pN \$v2 \$v3
pN \$v4 \$v5
|

Vector
\$v0 [62.9,81.1,-74.6]
\$v1 [82.6,26.4,-80.4]
\$v2 [-44.3,9.3,91.5]
\$v3 [92.9,-68.4,94.1]
\$v4 [91.4,-2.9,60.0]
\$v5 [-71.6,-15.6,83.1]

IsLI

指令 : IsLI (\$va \$vb)

Output

```
IsLI($v0,$v1) = Yes
```

Input

```
IsLI $v0 $v1  
IsLI $v0 $v1  
|
```

Vector

```
$v17 [24.0,61.0,-79.0,46.0,30.0,-5.0,87.0,-81.0,-  
$v18 [40.0,90.0,50.0,51.0,8.0,-44.0,-51.0,-43.0,  
$v19 [42.0,-91.0,-71.0,-53.0,-51.0,-66.0,-53.0,-4  
$v2 [-82.0,99.0,-81.0]  
$v20 [73.0,-8.0,-84.0,81.0,-44.0,23.0,32.0,-60.0,  
$v21 [-10.0,32.0,51.0,61.0,-94.0,56.0,13.0,-85.0  
$v22 [-18.0,90.0,84.0,-76.0,18.0,-28.0,44.0,5.0,-  
$v23 [75.0,-16.0,-2.0,-8.0,3.0,-46.0,-54.0,80.0,8  
$v24 [-79.0,-98.0,-88.0,-35.0,56.0,-33.0,24.0,99  
$v25 [-41.0,24.0,-90.0,99.0,-59.0,21.0,-30.0,44  
$v26 [-17.0,-44.0,20.0,-93.0,-87.0,-35.0,-80.0,-  
$v27 [80.0,-9.0,-88.0,-79.0,100.0,73.0,23.0,-95  
$v3 [-37.0,57.0,20.0,-7.0,-40.0]  
$v4 [-73.0,-41.0,-67.0,-37.0,-78.0]  
$v5 [66.0,94.0,-56.0,41.0,-92.0]  
$v6 [23.0,34.0,-93.0,-99.0,-72.0]  
$v7 [72.0,-45.0,6.0,4.0,14.0]  
$v8 [-33.0,-17.0,-17.0,97.0,-88.0,-21.0,58.0,19.0  
$v9 [67.0,-35.0,-26.0,59.0,-80.0,90.0,-100.0,-41
```

Ob

指令 : Ob (\$va \$vb)

Output

```
Ob($v0,$v1,$v2) =  
normal 3  
[-0.521527189132135 -0.547558458007128 0.65436161719709 ]  
[-0.433819701437939 0.830559866166912 0.349243146471193 ]  
[ 0.734717535955303 0.101735164902104 0.670701199180462 ]
```

Input

```
Ob $v0 $v1 $v2 $v3 $v4  
Ob $v0 $v1 $v2 $v3 $v4 $v5  
Ob $v0 $v1 $v2  
|
```

Vector

```
$v0 [-68.3,-71.7,85.7]  
$v1 [-42.7,2.4,46.4]  
$v10 [56.5,-7.3,-6.3,32.1,96.2,71.9,-82.0,47.1,7  
$v11 [13.3,64.1,0.6,-29.2,72.3,35.5,-9.1,-17.7,3  
$v12 [62.2,90.3,82.1,-30.5,-83.2,61.1,33.7,65.7,  
$v13 [15.3,-84.7,-98.7,-49.2,-32.4,6.2,66.2,87.0,  
$v14 [88.8,41.7,-32.2,90.5,-52.7,91.1,58.0,-20.1  
$v15 [74.2,-53.0,14.8,-40.3,-36.4,-86.6,42.5,-89  
$v16 [1.5,-20.2,-2.6,-68.3,96.8,8.3,-5.4,14.2,-2  
$v17 [57.7,-46.3,-47.5,-27.7,9.6,-43.6,41.7,49.5,  
$v18 [-5.3,66.5,15.9,48.3,49.8,-3.8,91.6,-35.9,-  
$v19 [65.7,99.0,75.6,41.1,68.3,36.9,1.1,-1.4,32.1  
$v2 [37.4,44.2,49.9]  
$v20 [-35.5,29.9,-87.8,40.1,-66.6,-58.3,-38.9,-5  
$v21 [95.2,40.7,-11.8,-98.7,80.6,21.6,57.9,87.8,  
$v22 [-44.3,86.4,-83.1,-25.1,-78.9,-34.7,-52.7,-  
$v23 [-85.4,37.5,12.6,80.2,49.0,76.1,-53.1,17.9,-  
$v24 [50.2,13.6,7.8,-36.3,45.8,-73.3,-7.0,-55.7,-  
$v25 [66.2,-23.8,53.6,19.4,43.4,-79.5,23.8,-80.8  
$v26 [84.2,-76.0,-53.3,-20.4,-72.2,61.8,72.0,-87.1
```

Matrix addition

Matrix

指令 : Calc (\$ma + mb)

Output
result =
[
16 158 -14 116 -156 -16 -112 48 112 -89 59 -76 83 -7 -60 59 -
179 4 44 -149 -19 -38 -12 60 -96 88 17 15 35 -143 -111 83 48
-6 14 -80 -114 -1 67 -30 22 -2 10 -120 1 -113 36 -117 4 -18 9
-66 150 64 7 19 -7 33 -146 -160 0 88 -15 78 96 70 135 50 87
-185 -30 70 2 -51 -97 -5 25 104 20 -123 46 132 38 15 -40 -148
-3 1 -40 134 12 -64 -24 12 13 33 105 17 28 -58 37 115 180 -1
-99 109 -23 127 26 62 -14 110 136 -163 -149 43 81 -114 78 -34
56 -44 54 -38 -14 11 -59 -151 -20 -5 156 0 5 -121 -138 -51 -13
-50 187 86 93 22 27 -109 -27 32 157 24 13 -85 135 21 -27 12
-66 -28 -121 71 57 83 18 15 -90 66 -11 -61 -46 -40 11 32 -72
-93 29 74 -52 -42 -33 73 111 -169 21 112 67 137 123 21 -86 -5
5 149 -127 -55 -68 -9 -104 153 91 173 96 -11 9 -31 -9 -73 -30
-114 -20 85 -58 13 111 14 -76 -16 -27 -179 -109 -19 14 -145 -7
29 0 108 -7 103 -38 -31 -12 -68 -65 -24 44 1 -72 15 -34 31 -15
46 41 180 -52 -155 67 163 120 -177 -35 -50 -16 -46 111 105 -5
-122 80 -57 5 104 19 -11 -170 -97 102 9 68 22 -1 46 38 -59 66
-8 -27 -72 53 116 20 -159 -107 -119 109 34 -102 -114 -18 163 -1
-90 -50 -163 97 55 -11 -102 -100 67 127 61 42 97 46 158 -11 -1
-36 155 -70 -19 -25 -105 73 41 -31 141 64 -57 -124 -37 29 -54
-48 3 112 -113 69 -72 86 -32 56 12 -49 97 62 -28 117 -56 -33
93 145 86 -151 15 16 17 2 77 -133 27 -65 -7 24 -6 98 87 50 -
42 -29 27 62 -62 80 13 136 26 4 -29 17 30 50 178 121 48 -178
-118 117 -17 -26 0 -18 -91 -47 30 -3 -128 34 -21 15 -152 109 -1
-22 -48 -3 99 17 44 -49 22 106 46 68 -65 20 -69 75 11 56 50
103 4 -114 80 -70 28 158 56 51 -174 -162 91 -48 159 16 67 -8
11 -65 -72 -20 -117 8 79 -5 -33 126 160 -118 -104 50 94 71 27
-8 174 68 -103 -64 40 139 -19 -131 166 -49 40 -58 -98 120 160
77 34 114 104 -119 147 -27 22 33 -41 -136 -111 11 -83 -19 138
-41 111 -155 -83 -65 52 186 -37 -66 42 34 63 63 64 22 -23 18
64 -73 -138 121 -46 -17 -37 -119 21 -9 -19 -90 -199 -34 12 24
175 22 -43 -65 12 134 -109 -112 -27 -103 -20 15 -17 -42 -140 1
-17 -135 -66 88 -112 -79 80 108 -84 -133 -27 -75 84 -2 -65 134
-71 137 42 97 24 -22 -170 -34 -123 -71 -66 49 22 -17 24 -12 -1
-161 -53 161 4 175 17 -131 111 26 76 -4 -21 74 27 -53 80 -103
]

Input
Calc \$m4 + \$m5

Vector
\$m0 [[31,-93,70] [-63,-2,-11] [29,42,51]]
\$m1 [[87,36,52] [-45,36,31] [-68,-77,0]]
\$m2 [[-48,31,38,50,-10,-84,-54,83,-70,65,8,100,-85
\$m3 [[88,29,-4,28,9,30,9,44,5,99,-57,-79,-78,-88,-1
\$m4 [[-20,97,-20,24,-69,-24,-68,52,75,-30,37,-41,6
\$m5 [[36,61,6,92,-87,8,-44,-4,37,-59,22,-35,77,-74
]

Matrix Multiplication

指令 : Calc (\$ma * mb)

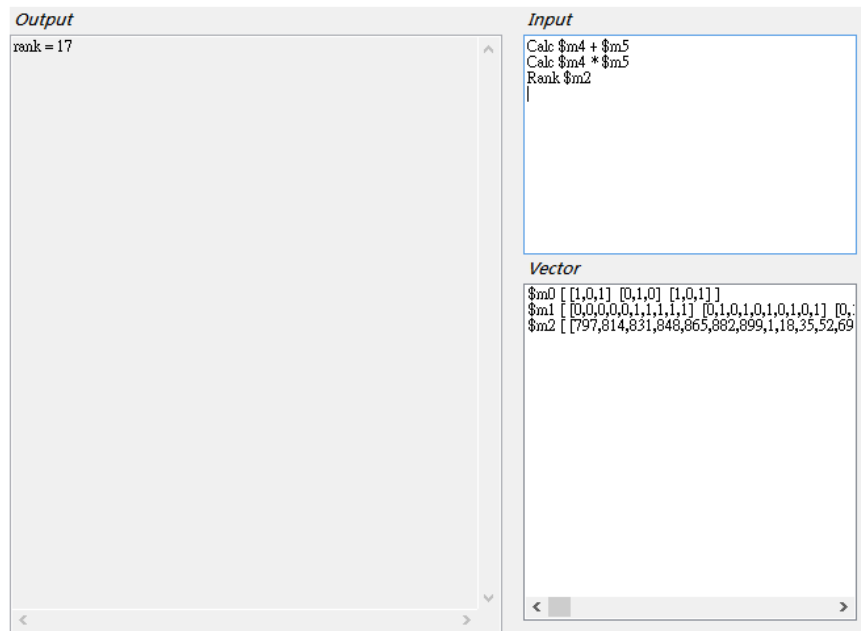
Output
result =
[
-35125 15375 24042 -13409 -9163 -19907 -5646 36251 4050 -312
4927 6015 12309 -967 -35397 -4287 -46647 20232 -8056 -8503 -3
-5291 7826 11828 19021 -10193 -47111 204 -14296 44908 14556
11183 18877 -69449 -2452 20939 -32948 32266 8911 3926 -8232
-42634 -9330 11246 6931 11008 -22179 16598 24373 4527 -15208
11635 -7324 36173 -13705 2421 -18158 -11406 205 -15062 14433
-1385 -14956 23074 35975 17670 22605 -30290 253 24348 27834
-8235 -21081 1561 21060 -21143 18525 -24299 -13726 -1478 4540
-82330 -16831 30539 232 -11276 6710 11642 14728 3507 -40811
12485 15356 7430 8615 -19475 13548 9045 9403 -50116 -13322
-33794 10802 -3249 18322 -5126 -1888 -8943 -8011 21236 4571
13142 23188 -38465 -32610 44974 6475 58220 -4256 745 -1811 -
-37891 4140 9612 -11290 -5358 -5744 27528 -21623 27132 -220
-36208 4705 -19782 -312 -6214 24981 32134 23469 391 -16944 2
-1404 474 52222 -31784 18916 30317 -8528 4795 39535 1857 10
4039 -3838 17687 -8079 -18534 19498 22080 33759 2795 -40938
45892 45931 -34171 -16769 -46534 4191 3024 -6747 739 -21571
37736 24488 -36704 5585 16404 -383 -18510 -2706 -23304 52016
-63 -35643 16102 -679 18605 7355 -15735 24608 43311 61436 18
2178 29054 26952 17966 3801 1736 -6432 -39481 -31405 2972 -3
-35702 -11261 -21822 58455 -25454 -5474 40731 5708 2129 8511
12455 5740 -15151 4737 25938 31260 -11296 27798 -37118 3736
39353 16500 48640 -31898 29479 -28418 5248 3290 22568 -31311
-13978 -21789 13198 -9520 12311 23684 -606 -18866 28363 -616
58656 2712 -326 52241 -2769 25996 -4938 17123 14783 34253 -5
21713 64741 -19408 -63 -43015 -7254 -14710 -18030 2846 -23618
13950 -50615 3473 17781 27141 30517 -2588 -2480 14582 31489
19225 -686 -31196 5705 3323 1928 24642 -36589 1780 8771 801
17851 -15563 -35507 5841 28105 -20140 -30488 4103 -41068 899
64393 5516 -4498 4946 27442 -70870 -38936 50118 -7222 24429
-976 -8914 40249 35605 6646 -21576 -30412 30907 3773 -2006 1
-41920 -8965 -2167 -13848 10538 14666 15362 -8217 1800 25358
13776 -25178 13371 -6637 17862 -4685 5350 5236 31892 -36306
-10730 5404 31063 -6360 1906 -6931 -1020 -19572 -34977 23798
]

Input
Calc \$m4 + \$m5
Calc \$m4 * \$m5

Vector
\$m0 [[0,-75,75] [7,-2,-46] [-11,71,-58]]
\$m1 [[13,-59,-79] [28,90,-72] [-17,-84,-67]]
\$m2 [[7,-49,88,54,-62,25,-98,-88,58,-49,-36,17,61,
\$m3 [[-26,-69,-93,48,-53,11,-55,-12,98,91,-61,-3,9
\$m4 [[88,18,-57,-51,17,-83,-29,28,-8,73,40,98,73,2
\$m5 [[-67,-77,7,-31,-48,-85,-56,-67,-59,53,-35,-53,
]

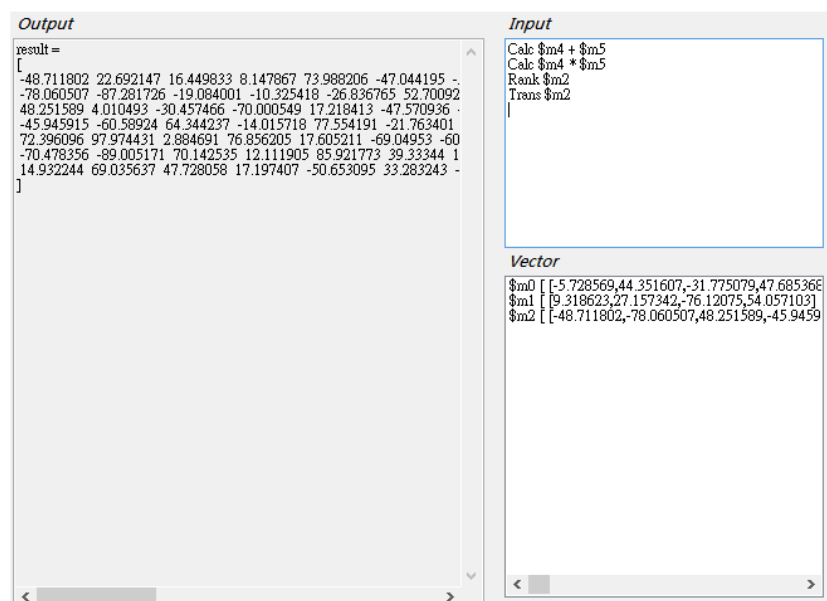
Rank

指令 : Rank (\$ma)



Trans

指令 : Trans (\$ma)



Slove

指令: Solve (\$ma \$mb)

Output

```

result =
A\b:
0.000000*(x0) = 0.423728
1.000000*(x1) = -0.187569
1.000000*(x2) = -0.159916
1.000000*(x3) = 0.823379
1.000000*(x4) = -0.506962
1.000000*(x5) = -0.038364
1.000000*(x6) = 0.064847
1.000000*(x7) = 0.005271
1.000000*(x8) = 0.244452
1.000000*(x9) = -0.138335
1.000000*(x10) = 0.376622
1.000000*(x11) = 0.608913
1.000000*(x12) = 0.333019
1.000000*(x13) = -0.324144
1.000000*(x14) = -0.559756
1.000000*(x15) = 0.111581
1.000000*(x16) = -0.233757
1.000000*(x17) = -0.493676
1.000000*(x18) = -0.943433
1.000000*(x19) = 0.594946
1.000000*(x20) = -0.202780
1.000000*(x21) = -0.922857
1.000000*(x22) = 0.575340
1.000000*(x23) = -0.043142
1.000000*(x24) = -0.208863
1.000000*(x25) = 0.283879
1.000000*(x26) = 0.414136
1.000000*(x27) = 0.234045
1.000000*(x28) = 0.506405
1.000000*(x29) = -0.190956
1.000000*(x30) = -0.066814
1.000000*(x31) = -0.345044
1.000000*(x32) = -0.396291
1.000000*(x33) = 0.094961

```

Input

```

Solve $m4 $m5

```

Vector

```

$m0 [-8,3,-46] [-54,80,82] [21,-27,20]]
$m1 [34] [79] [-83]]
$m2 [-94,-65,-25,-22,22,-70,82,79,66,87,45,39,-34]
$m3 [2] [58] [5] [24] [12] [46] [-88] [-1] [-54]
$m4 [78,-96,-74,88,59,-62,-57,93,-8,12,-45,-73,-9]
$m5 [55] [-51] [-26] [-32] [-9] [-66] [49] [-81]

```

Det

指令: Det (\$ma)

Output

```
det = 5.35537677350539E+84
```

Input

```
Solve $m4 $m5
Det $m1
Det $m2
```

Vector

```
$m0 [ [32,-67,-82] [88,-12,62] [-92,-35,-20] ]
$m1 [ [9,-9,-9,-5,-2,7,-13,15,-19,6,-5,-11,2,-2,16,2,
$m2 [ [16,-16,12,1,17,19,5,7,19,-13,-9,13,-13,0,0,-1
```

Inverse

指令 : Inv (\$ma)

Output	Input
<pre> result = [-0.0114277400341458 -0.0154804819467459 -0.0024193005950637 - 0.00457831918086965 -0.0223457547886735 -0.0142283212182742 - 0.00895243767353 -0.00497338892387218 -0.00186939272679369 -C 0.0263144611699792 0.0192159414253619 -0.0116855588219228 -0. -0.0113661093730152 -0.0258518952683978 -0.00562577624387051 0.00538162187670587 0.0248981749950951 0.0108579133100606 0.1 0.00627471817541137 0.0159903038783537 -0.00924298128527321 -0.0118453828108619 0.0259559622536259 0.00377428874409941 0 -0.00776051173789965 -0.0131698904141164 -0.00417552886462235 0.00812328105121398 0.0109589683959044 0.0028808120490631 0.1 0.00683346018631002 0.0285455501965942 -0.00503249945081646 0.0118382151184402 -0.000290184351267446 -0.0067369965945974 -0.0100683269014903 -0.000341812045255456 -0.0048431222528375 0.0129793148132696 0.0121757489417829 0.0113013754481318 0.0 0.0269068524334558 -0.0147425780284801 -0.0162119030663163 -C 0.00351547646487204 0.00895997153451426 -0.00190495439616862 -0.00367499326541942 0.0267455712145022 0.00784108269260647 -0.000581219176907294 0.00121547788735855 0.0072056917794833 -0.00901568362393773 -0.0042286537357899 0.00876129077264538 -0.00603194271959905 -0.0409551365719511 -0.00201633841053952 -0.00678209514596713 -0.000497990247600749 -0.004907319549406 2.10397217341879E-05 -0.0168753974685555 -0.00512489683928111 -0.00485517903787591 -0.0347723463191278 -0.00095092063953912 -0.0179450764925766 0.0187181895548957 -0.00536531967777044 (0.000712546832625144 0.0200630947446706 0.00786376947458492 0.0092933550190867 0.000480243486178903 -0.0098791347715960 -0.00153435610127615 0.0078986283962003 -0.0063919834532662 (-0.00449887792665131 0.0172217883955047 0.00738252182039553 -0.00634728620571773 0.0111019515385107 -0.00132514738104236 -0.0127718348312854 -0.0060521964980701 0.0120850429809756 -C] </pre>	<p>Solve \$m4 \$m5 Det \$m1 Det \$m2 Inv \$m2</p> <p>Vector</p> <p>\$m0 [[1,2,0] [2,4,0] [9,8,7]] \$m1 [[-0.578817174665236,1.15195969555778,-1 \$m2 [[-15,-4,-9,10,11,-1,12,-19,17,5,-1,6,-9,20,-11, \$m3 [[-1,-1,0,0,-1,0,-1,0,0,0,0,-1,0,-1,-1,0,-1,-1,0</p>

Adj

指令 : Adj (\$ma)

Output	Input
<pre> result = [9724809.74930067 -11261380.811164 9912117.81537025 -7581379.63 8744214.11058359 -8445517.90348945 12949284.8196899 -11386557 2288596.30105949 1461927.64714691 1247563.8477139 3863377.14 -4698955.73222976 2471187.77390067 -7306478.11463427 1260321.1 -4350556.47042014 3277742.75719528 -224900.670828325 5326360. 4931527.88681729 -964624.364934616 -6752217.11786587 2167984. -5549190.70986251 3815836.60437741 -5509703.36859416 2836810. -1362100.63740865 374433.039754506 1536915.46575871 -335785.1 7885933.58172441 -883512.005518895 1567688.11790948 3085548.8 -5892927.10111935 7360963.83291411 -10014115.8263526 1817503.] </pre>	<p>Solve \$m4 \$m5 Det \$m1 Det \$m2 Inv \$m2 Adj \$m2</p> <p>Vector</p> <p>\$m0 [[-0.067007,-4.449422,2.640709] [2.017739,- \$m1 [[-1.355228,-3.66525,-0.806204,1.012511,4.2 \$m2 [[0.749325,-3.486263,3.351596,-3.758562,-0.</p>

Eigen Vector(v) and Eigen Value(d)

指令: Eigen (\$ma)

```
Output
result =
A0:
(x0)+11.500000*(x1) = -0.000000
Eigen: -7.000000
A1:
(x0)-0.500000*(x1) = 0.000000
Eigen: -103.000000

Input
Eigen ($m0)
Eigen $m0
Eigen $m0

Vector
$m0 [ [-11,-46] [-8,-99] ]
$m1 [ [27,0,8] [-3,-100,58] [-56,0,-89] ]
$m2 [ [-30,47,47] [75,-19,6] [77,7,-18] ]
```

PM

指令: PM (\$m0)

```
Output
result:
Value = -5.97203791575419
Vector =
[
-0.26192239109111 -0.747107262966199 -0.610923398363714
]

Input
Eigen ($m0)
Eigen $m0
Eigen $m0
PM $m0

Vector
$m0 [ [0,-7,6] [-2,-2,-4] [-2,-5,1] ]
$m1 [ [4,0,5,-7,1] [-6,-8,-4,2,-1] [-7,-2,10,-8,7] [3,
$m2 [ [95,-12,82,29,-17,-78,-36,-43,72,-41] [-81,-5
```

LeastSquare

指令 : LSqrt (\$ma \$mb)

Output	Input
<pre> result = 17.9496989320633: -34.0423882517534: 82.2614868715173: -109.68556871175: -181.025572951738: 2.24670234418591: 70.1360552227488: -73.0493870413193: -41.1974978356884: -10.2497811301528: -13.6885908432614: 113.333119212213: 123.360441644312: 0.797232181163054: 86.7844574055634: -69.9614915134007: -49.7439777123363: -23.7515278153332: 74.8788147512969: 114.06783132971: 58.5188027720214: 84.1826563810173: -87.9611828002089: -11.0624909786275: -12.8329051964301: -26.7718003323789: 29.8279069951968: -25.0099134259217: -8.21196160299587: 9.12731955801246: 139.007919755881: -21.5568179656839: 84.0658284226229: 19.3775354378085: 81.4196432509634: </pre>	<pre> LSqrt \$m0 \$m1 LSqrt \$m3 \$m4 LSqrt \$m4 \$m5 LSqrt \$m2 \$m3 LSqrt \$m6 \$m7 </pre>
	<p>Vector</p> <pre> \$m0 [[10,0] [0,91] [1,1]] \$m1 [[5] [3] [0]] \$m2 [[-0.0332474596379389,1.02030346566509,-4 \$m3 [[0.982062563214574] [0.578267561462169] \$m4 [[-1.85120590791259,-0.369953623231962,0 \$m5 [[0.899552101502665] [0.23748161210208] \$m6 [[-3,-1,-2,-2,0,-3,0,1,-2,-1,0,-2,0,1,-1,1,0 \$m7 [[5] [5] [6] [0] [1] [4] [0] [4] [0] [2] [5] </pre>

rref

指令 : RR (\$ma)

Output	Input
<pre> result = [1 0 0 0 1 0 0 0 1] </pre>	<pre> PM \$m0 RR \$m0 </pre>
	<p>Vector</p> <pre> \$m0 [[96.889681,68.370347,-78.975174] [9.65017 \$m1 [[43.49392,71.943409,-86.664611,-58.348322 \$m2 [[-82.086119,47.146561,79.023631,-47.42783 </pre>