eg1 - Notepad

File Edit Format View Help

```
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2),(3,4),(5,6)))
c=a*b
print(c)
```

Ln 1, Col 1 100% Windows (CRLF) UTF-8

Command Prompt

```
a*b
 [[ 20  80 180]
 [  5   8   6]
 [  7  30  50]]

C:\thinkingmachines.in>notepad eg1.py

C:\thinkingmachines.in>py eg1.py
[[220 280]
 [ 33  44]]

C:\thinkingmachines.in>notepad eg1.py

C:\thinkingmachines.in>py eg1.py
a
 [[10 20 30]
 [ 4  3  4]]
b
 [[1 2]
 [3 4]
 [5 6]]
[[220 280]
 [ 33  44]]
a*b
 [[220 280]
 [ 33  44]]

C:\thinkingmachines.in>
```

*eg1 - Notepad

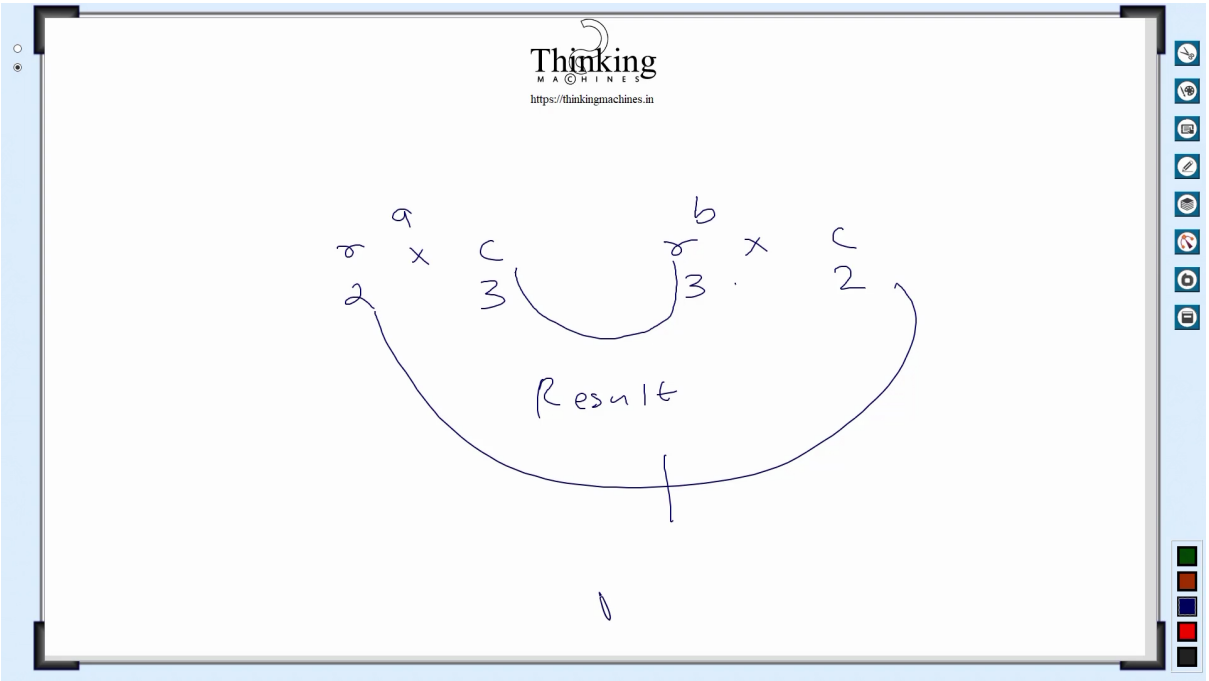
File Edit Format View Help

```
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2),(3,4),(5,6)))
print('a\n',a)
print('b\n',b)
c=a*b
print('c)
```

Ln 7, Col 8 100% Windows (CRLF) UTF-8

Command Prompt

```
C:\thinkingmachines.in>py eg1.py
a
 [[10 20 30]
 [ 4  3  4]]
b
 [[1 2]
 [3 4]
 [5 6]]
a*b
 [[220 280]
 [ 33  44]]

C:\thinkingmachines.in>
```



eg1 - Notepad

File Edit Format View Help

```
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2),(3,4),(5,6)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b\n',c)
```

Ln 1, Col 1 100% Windows (CRLF) UTF-8

*eg1 - Notepad

File Edit Format View Help

```
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2,3),(3,4,3),(5,6,3,4)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b\n',c)
```

Ln 3, Col 41 100% Windows (CRLF) UTF-8

*eg1 - Notepad

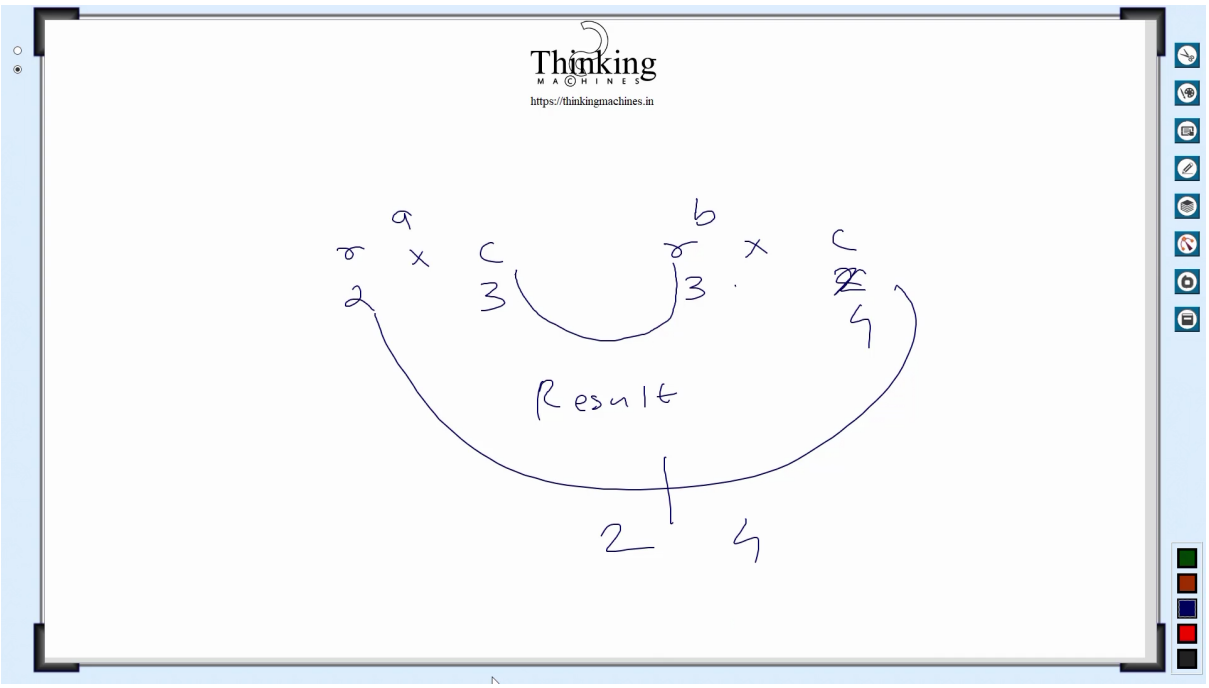
File Edit Format View Help

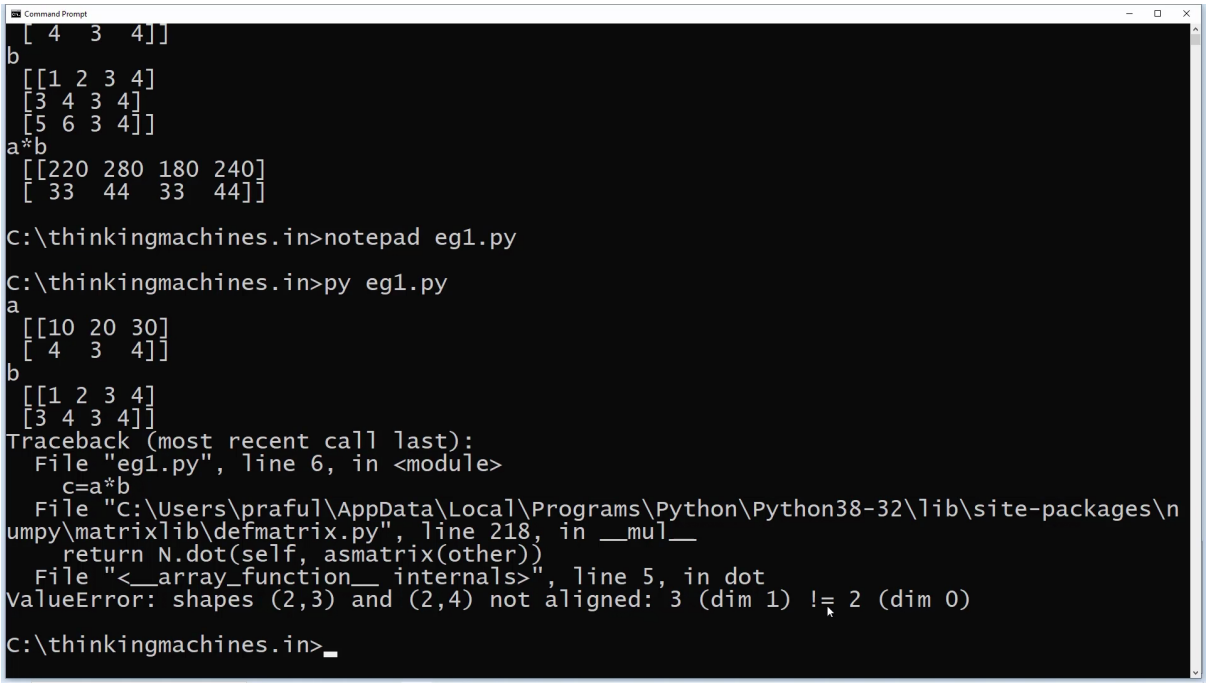
```
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2,3,5),(3,4,3,4),(5,6,3,4)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b\n',c)
```

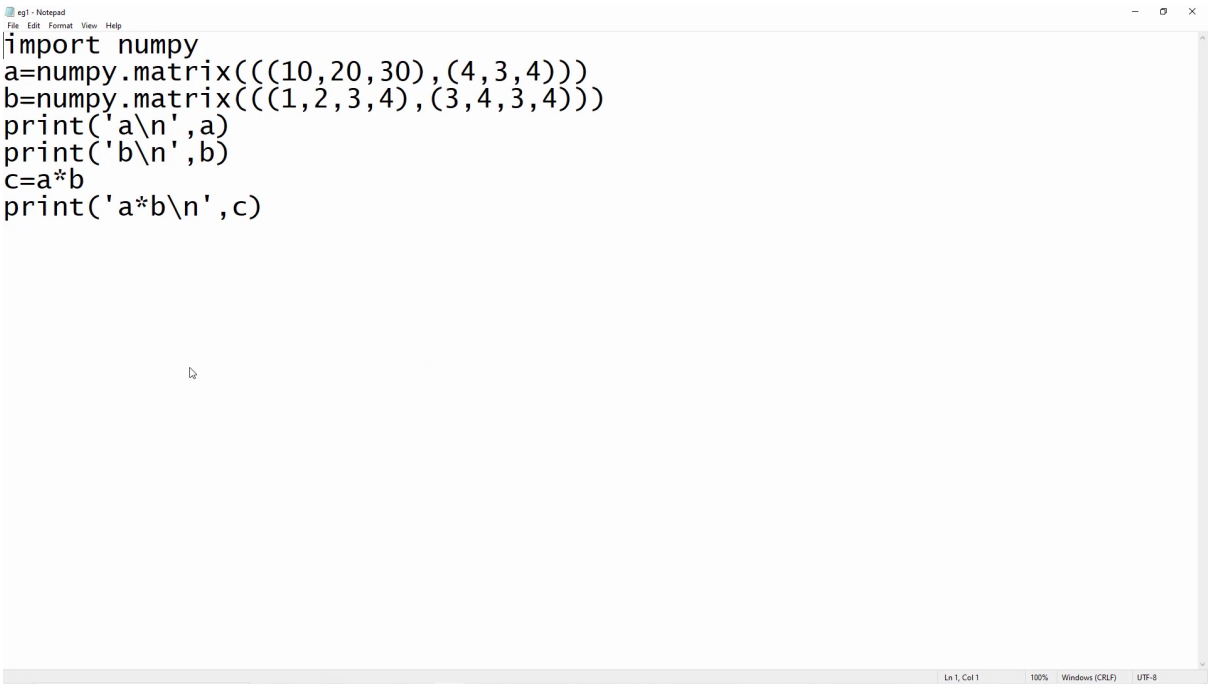
Ln 3, Col 25 100% Windows (CRLF) UTF-8

Command Prompt

```
C:\thinkingmachines.in>py eg1.py
a
 [[10 20 30]
 [ 4  3  4]]
b
 [[1 2 3 4]
 [3 4 3 4]
 [5 6 3 4]]
a*b
 [[220 280 180 240]
 [ 33  44  33  44]]

C:\thinkingmachines.in>
```




Command Prompt
[4 3 4]]
b
[[1 2 3 4]
[3 4 3 4]
[5 6 3 4]]
a*b
[[220 280 180 240]
[33 44 33 44]]
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20 30]
[4 3 4]]
b
[[1 2 3 4]
[3 4 3 4]]
Traceback (most recent call last):
File "eg1.py", line 6, in <module>
c=a*b
File "C:\Users\praful\AppData\Local\Programs\Python\Python38-32\lib\site-packages\numpy\matrixlib\defmatrix.py", line 218, in __mul__
return N.dot(self, asmatrix(other))
File "<__array_function__ internals>", line 5, in dot
ValueError: shapes (2,3) and (2,4) not aligned: 3 (dim 1) != 2 (dim 0)
C:\thinkingmachines.in>


eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20,30),(4,3,4)))
b=numpy.matrix(((1,2,3,4),(3,4,3,4)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b\n',c)
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8

Thinking MACHINES
https://thinkingmachines.in

	Sports	computing	music
IX	5	10	15
X	6	15	2
XI		16	8
XII	24		

fee

sports	100
Computer	200
music	150

Thinking MACHINES
https://thinkingmachines.in

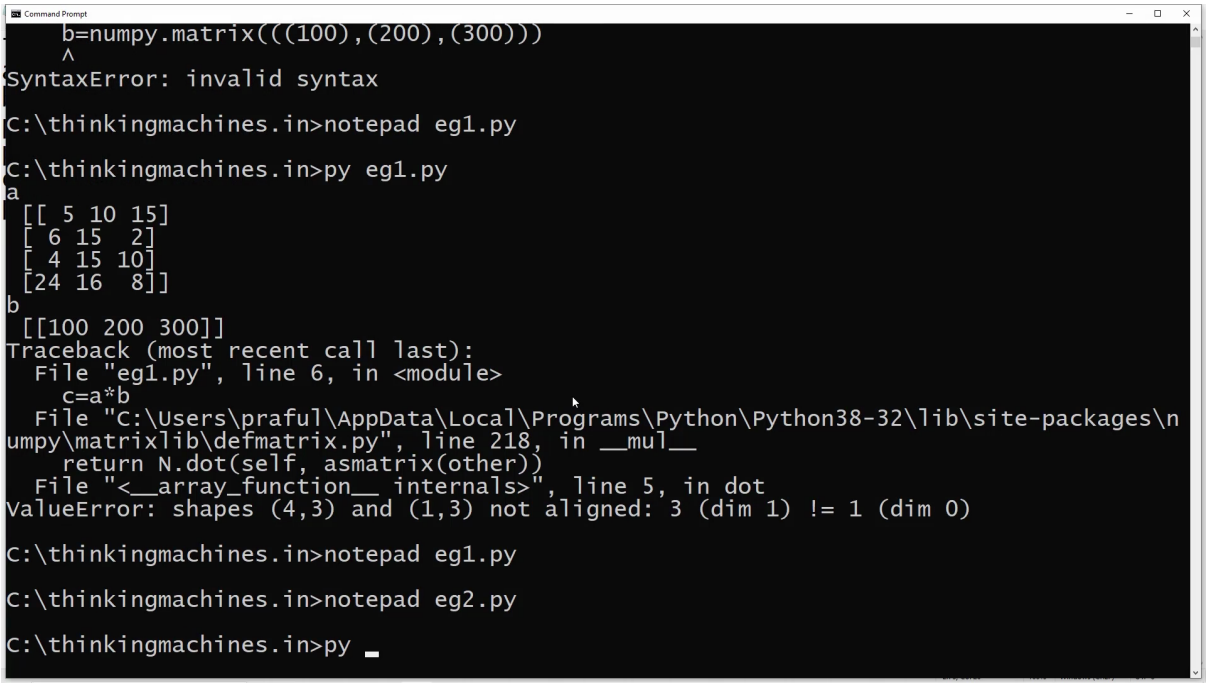
extra

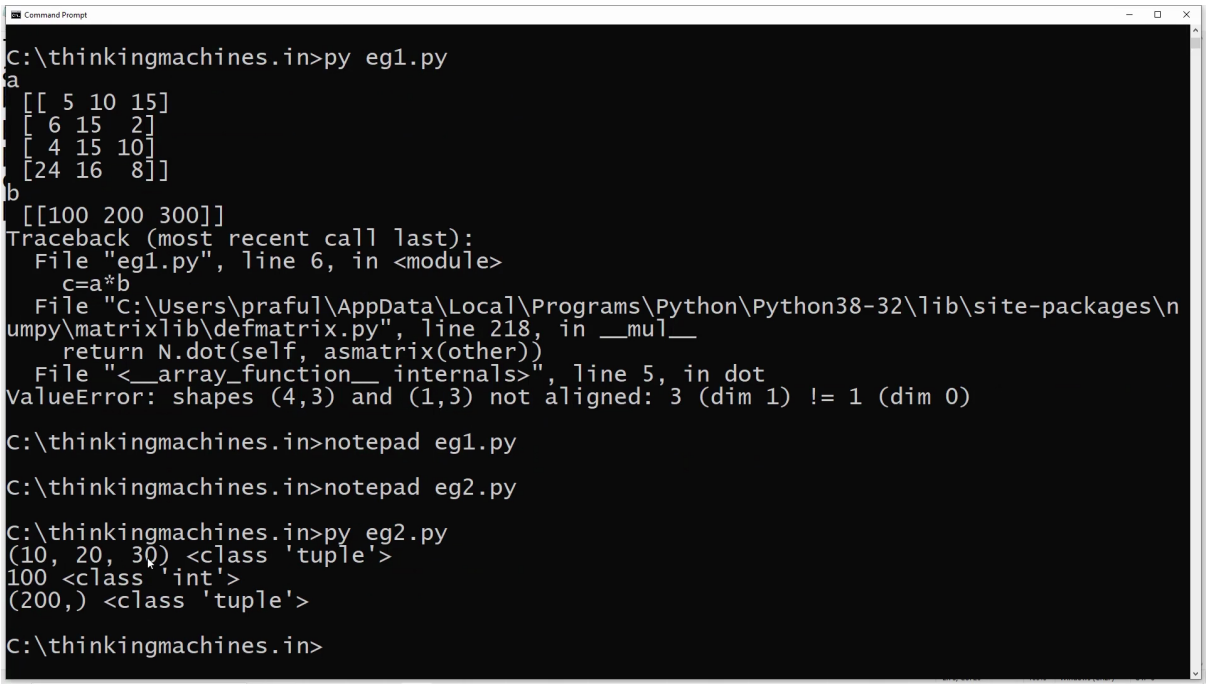
	Sports	computing	music
IX	5	10	15
X	6	15	2
XI		16	8
XII	24		

fee

sports	100
Computer	200
music	150

How much money will be collected every month


Command Prompt
b=numpy.matrix(((100),(200),(300)))
^
SyntaxError: invalid syntax
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[5 10 15]
[6 15 2]
[4 15 10]
[24 16 8]]
b
[[100 200 300]]
Traceback (most recent call last):
File "eg1.py", line 6, in <module>
c=a*b
File "C:\Users\praful\AppData\Local\Programs\Python\Python38-32\lib\site-packages\numpy\matrixlib\defmatrix.py", line 218, in __mul__
return N.dot(self, asmatrix(other))
File "<__array_function__ internals>", line 5, in dot
ValueError: shapes (4,3) and (1,3) not aligned: 3 (dim 1) != 1 (dim 0)
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>notepad eg2.py
C:\thinkingmachines.in>py


Command Prompt
C:\thinkingmachines.in>py eg1.py
a
[[5 10 15]
[6 15 2]
[4 15 10]
[24 16 8]]
b
[[100 200 300]]
Traceback (most recent call last):
File "eg1.py", line 6, in <module>
c=a*b
File "C:\Users\praful\AppData\Local\Programs\Python\Python38-32\lib\site-packages\numpy\matrixlib\defmatrix.py", line 218, in __mul__
return N.dot(self, asmatrix(other))
File "<__array_function__ internals>", line 5, in dot
ValueError: shapes (4,3) and (1,3) not aligned: 3 (dim 1) != 1 (dim 0)
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>notepad eg2.py
C:\thinkingmachines.in>py eg2.py
(10, 20, 30) <class 'tuple'>
100 <class 'int'>
(200,) <class 'tuple'>
C:\thinkingmachines.in>

*eg1 - Notepad

File Edit Format View Help

```
import numpy
a=numpy.matrix(((5,10,15),(6,15,2),(4,15,10),(24,16,8)))
b=numpy.matrix(((100,),(200),(300)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b',c)
```

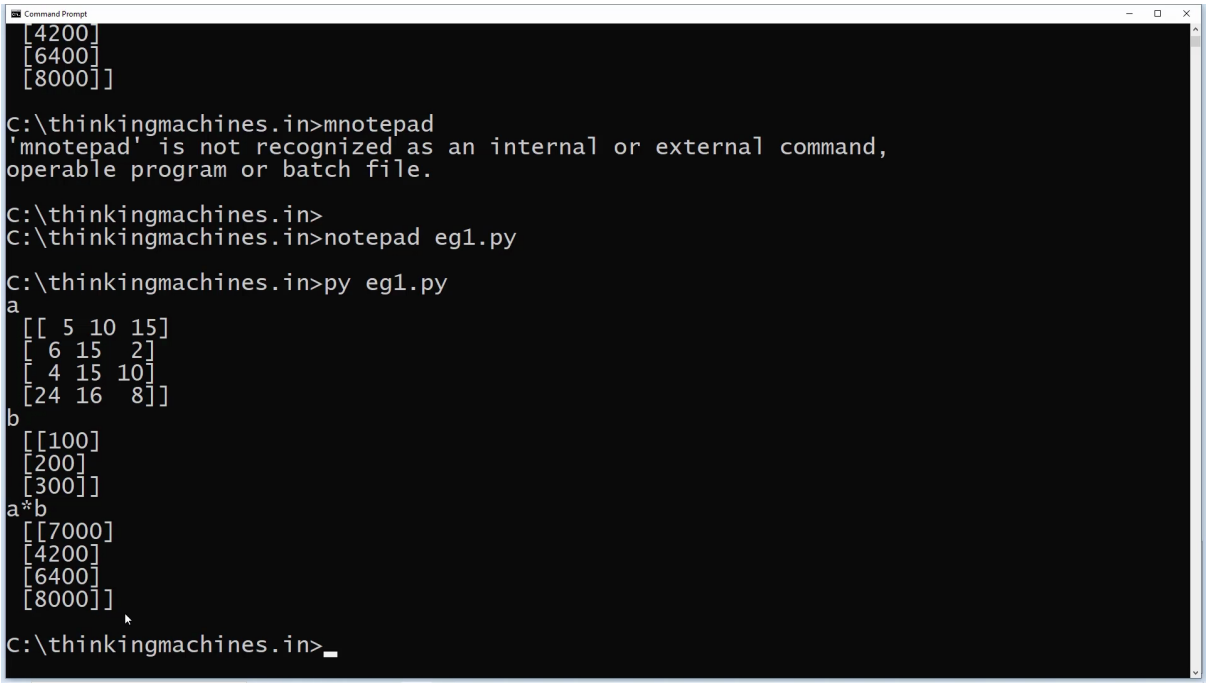
Ln 3, Col 26 100% Windows (CRLF) UTF-8

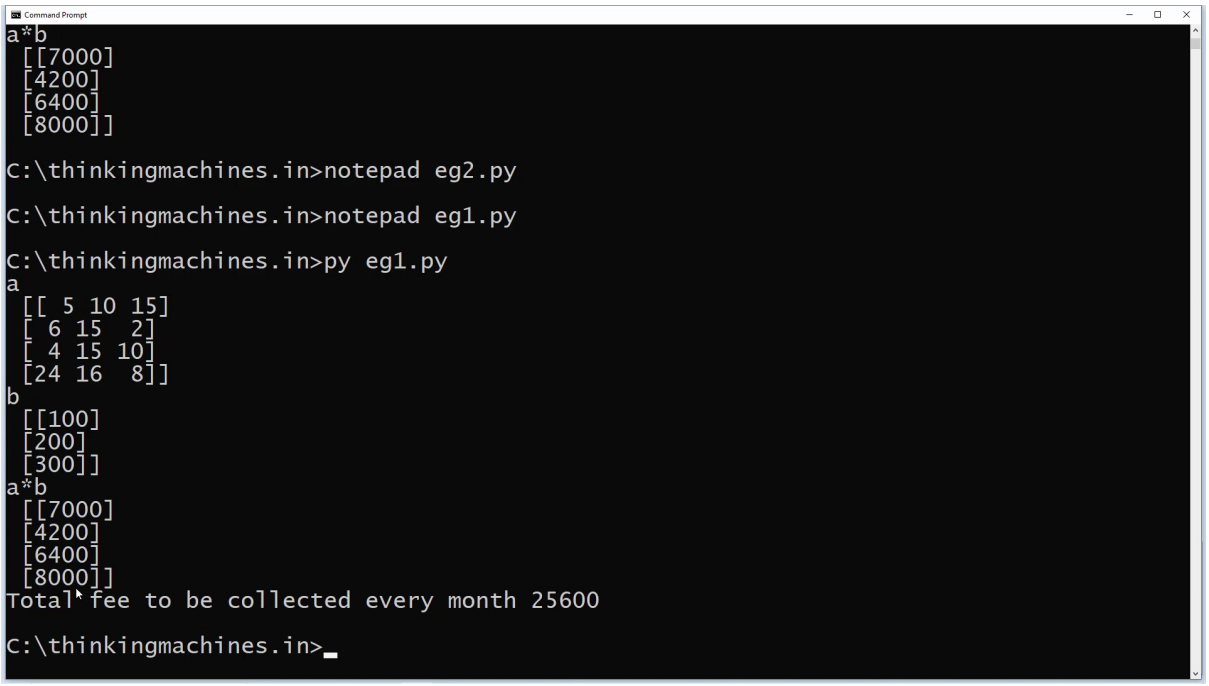
*eg2 - Notepad

File Edit Format View Help

```
a=(10,20,30) # tuple
print(a,type(a))
b=(100) # int
print(b,type(b))
c=(200,) # tuple
print(c,type(c))
```

Ln 5, Col 16 100% Windows (CRLF) UTF-8


Command Prompt
[4200]
[6400]
[8000]]
C:\thinkingmachines.in>mnotepad
'mnotepad' is not recognized as an internal or external command,
operable program or batch file.
C:\thinkingmachines.in>
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[5 10 15]
[6 15 2]
[4 15 10]
[24 16 8]]
b
[[100]
[200]
[300]]
a*b
[[7000]
[4200]
[6400]
[8000]]
C:\thinkingmachines.in>

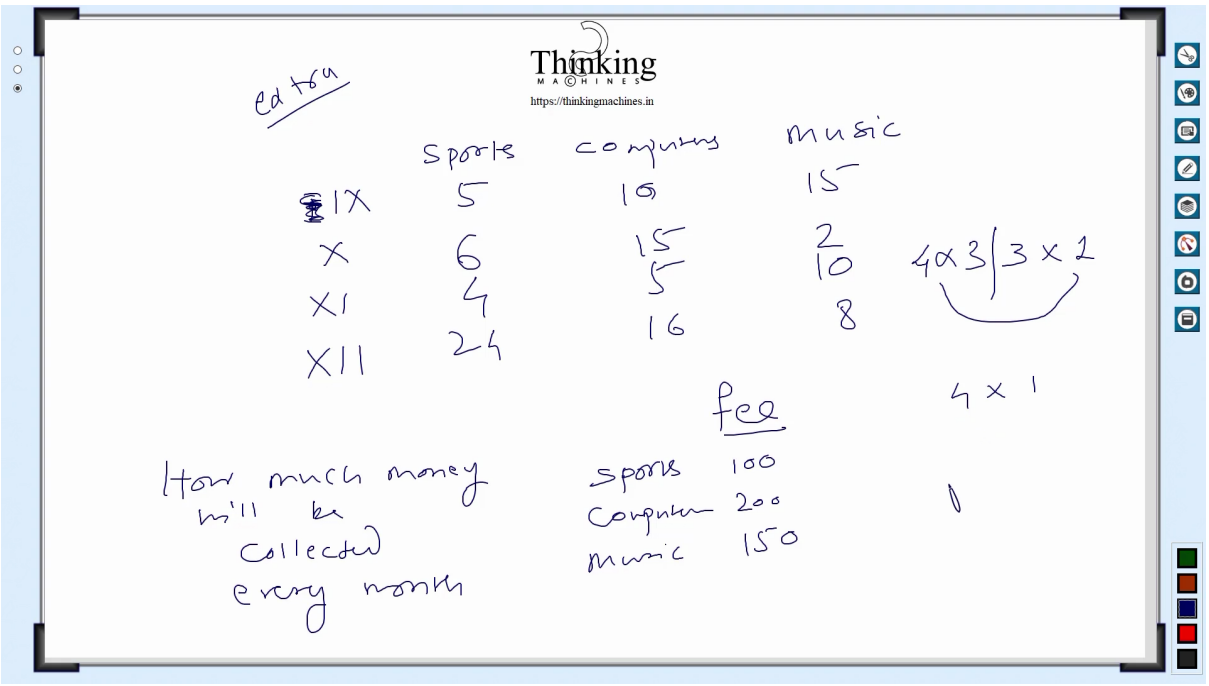

Command Prompt
a*b
[[7000]
[4200]
[6400]
[8000]]
C:\thinkingmachines.in>notepad eg2.py
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[5 10 15]
[6 15 2]
[4 15 10]
[24 16 8]]
b
[[100]
[200]
[300]]
a*b
[[7000]
[4200]
[6400]
[8000]]
Total fee to be collected every month 25600
C:\thinkingmachines.in>

eg1 - Notepad

File Edit Format View Help

```
import numpy
a=numpy.matrix(((5,10,15),(6,15,2),(4,15,10),(24,16,8)))
b=numpy.matrix(((100,),(200,),(300,)))
print('a\n',a)
print('b\n',b)
c=a*b
print('a*b\n',c)
t=numpy.sum(c)
print(f"Total fee to be collected every month {t}")
```

Ln 1, Col 1 100% Windows (CRLF) UTF-8



eg1 - Notepad

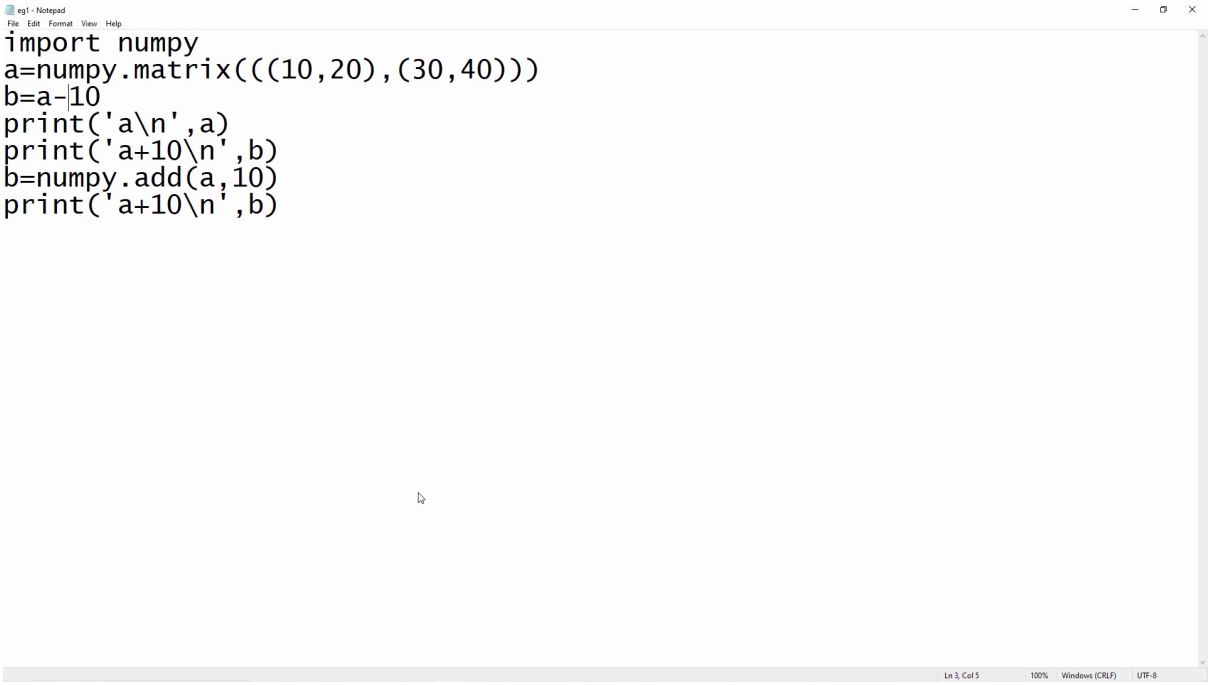
File Edit Format View Help

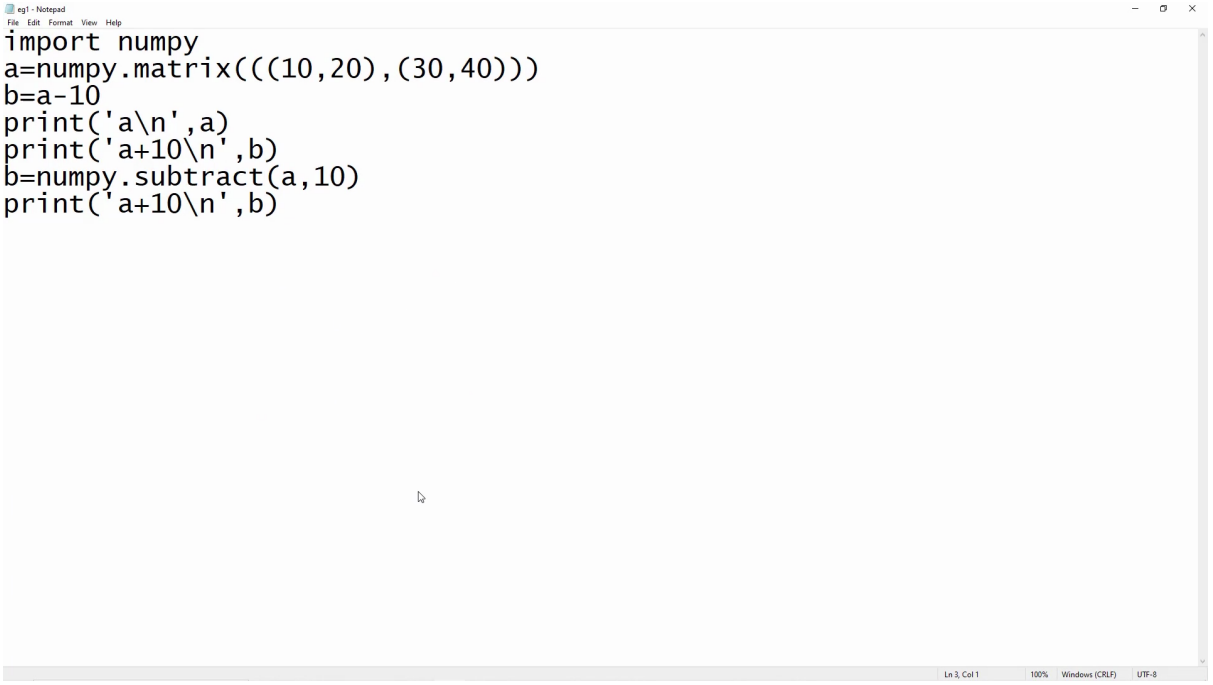
```
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a+10
print('a\n',a)
print('a+10\n',b)
b=numpy.add(a,10)
print('a+10\n',b)
```

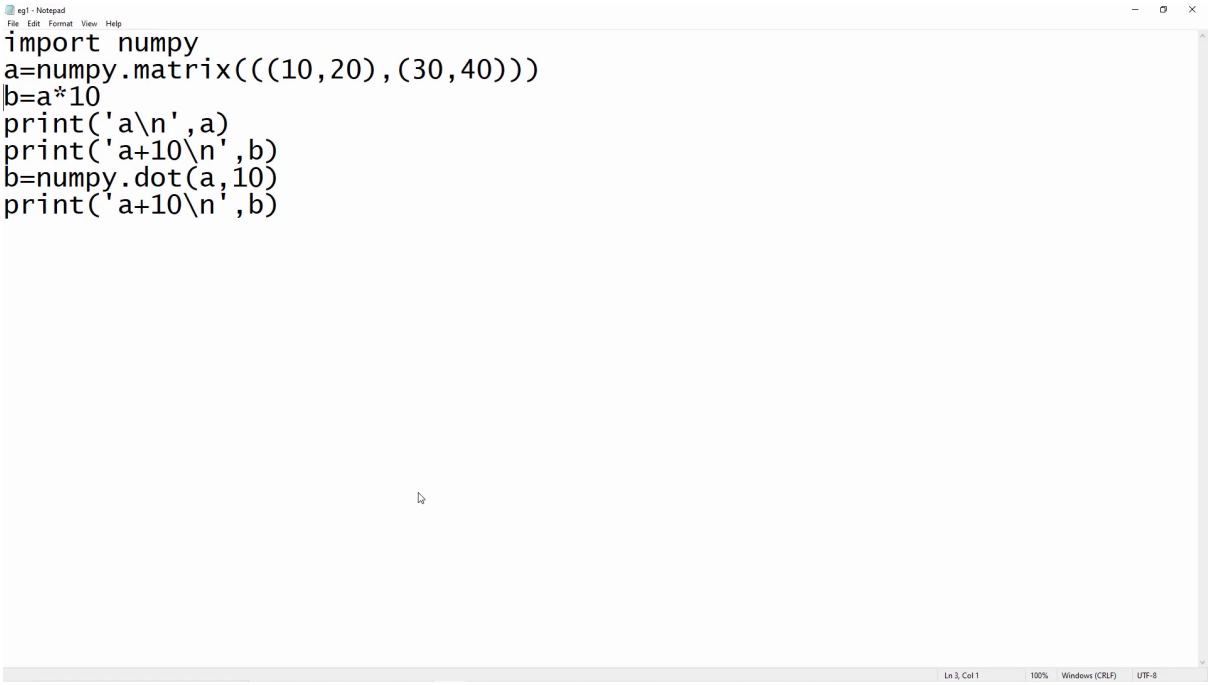
Ln 1, Col 1 100% Windows (CRLF) UTF-8

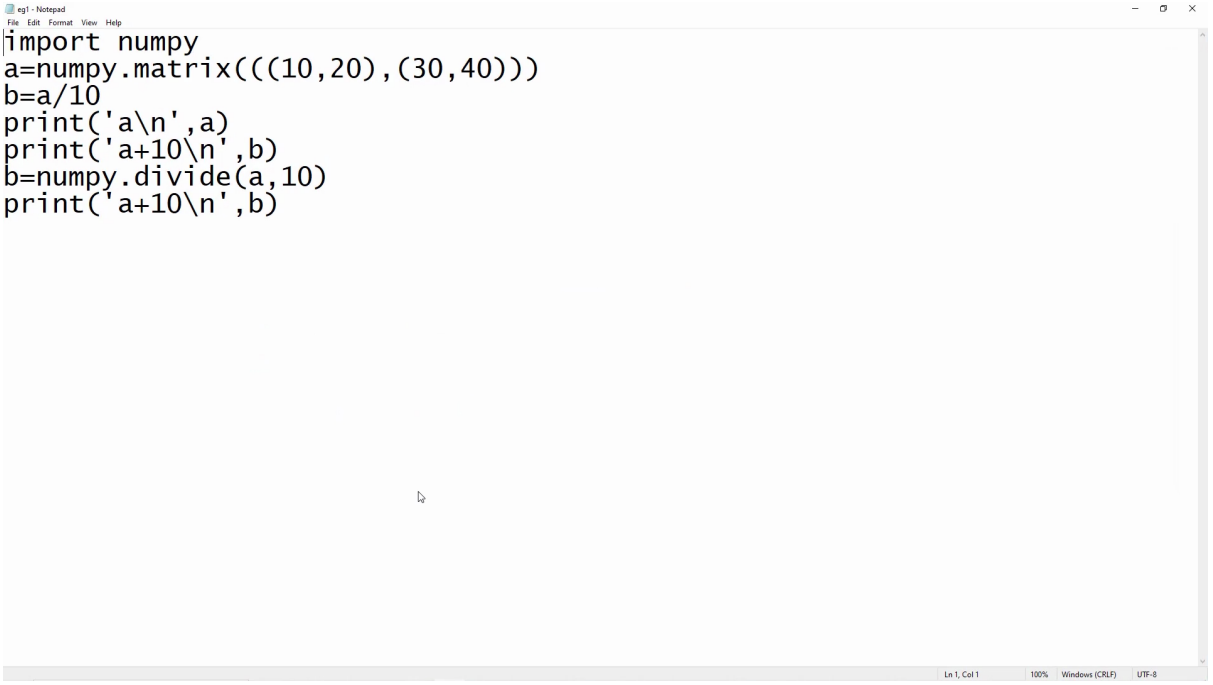
Command Prompt

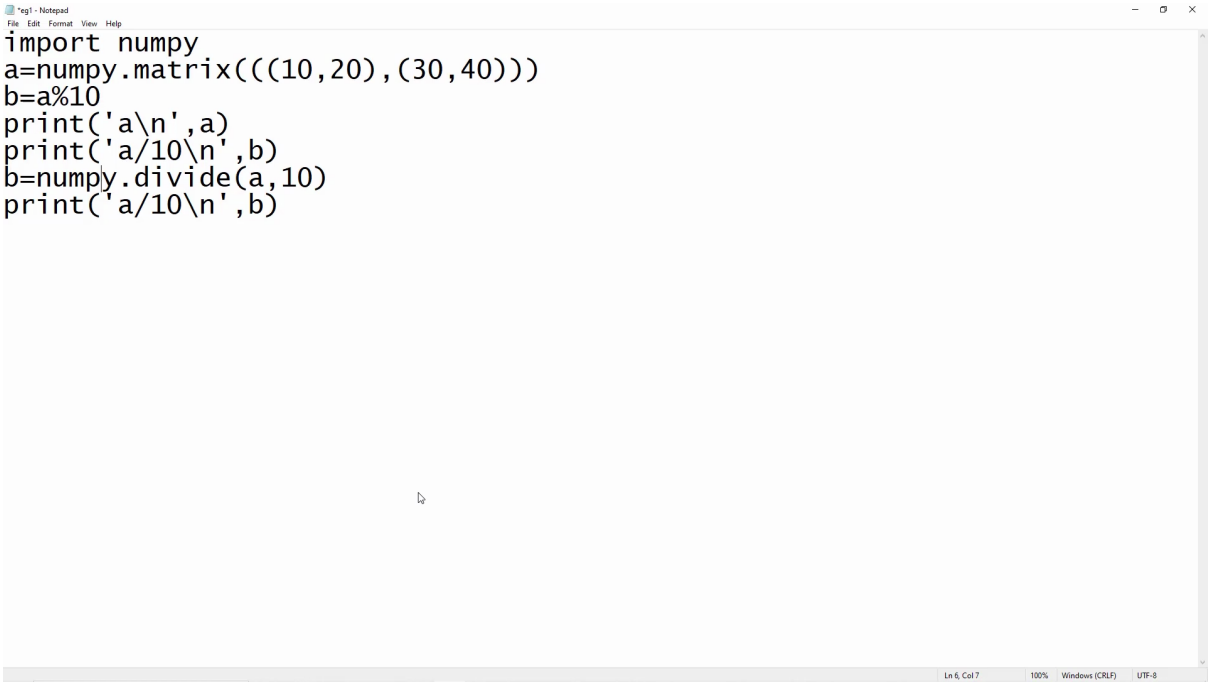
```
C:\thinkingmachines.in>py eg1.py
a
 [[10 20]
 [30 40]]
a+10
 [[20 30]
 [40 50]]
a+10
 [[20 30]
 [40 50]]

C:\thinkingmachines.in>notepad eg1.py

C:\thinkingmachines.in>py eg1.py
a
 [[10 20]
 [30 40]]
a+10
 [[ 0 10]
 [20 30]]
a+10
 [[20 30]
 [40 50]]

C:\thinkingmachines.in>cls
```

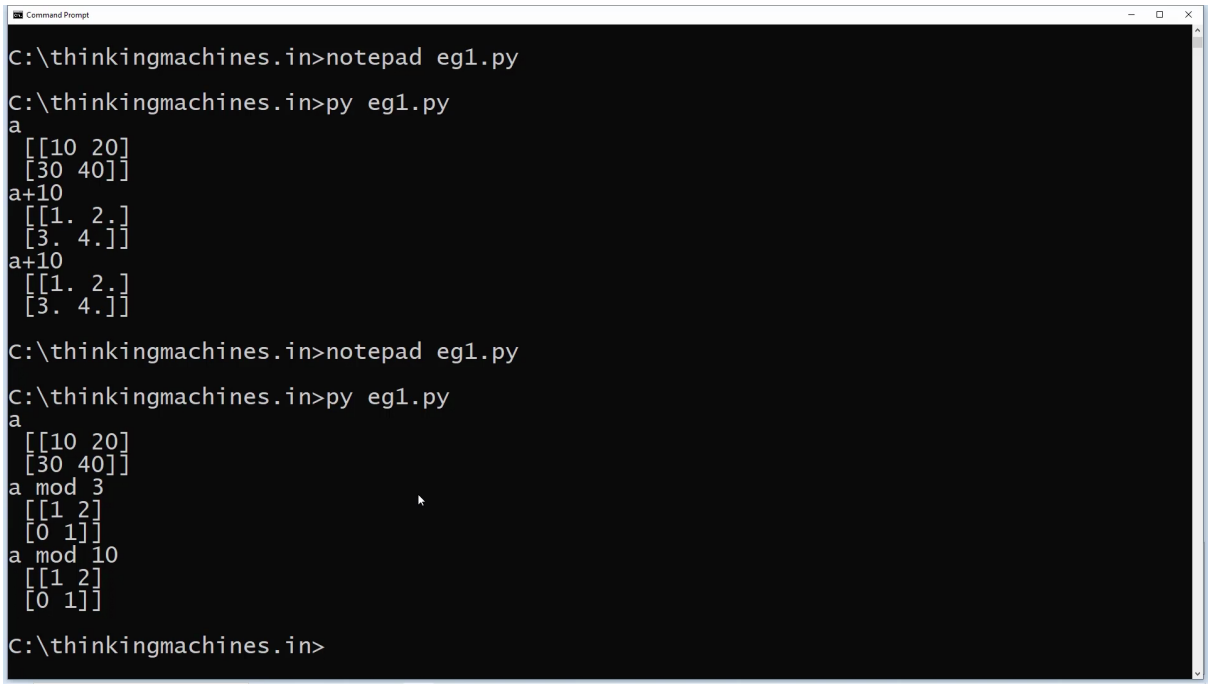

eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a-10
print('a\n',a)
print('a+10\n',b)
b=numpy.add(a,10)
print('a+10\n',b)
Ln 3, Col 5
100%
Windows (CRLF)
UTF-8

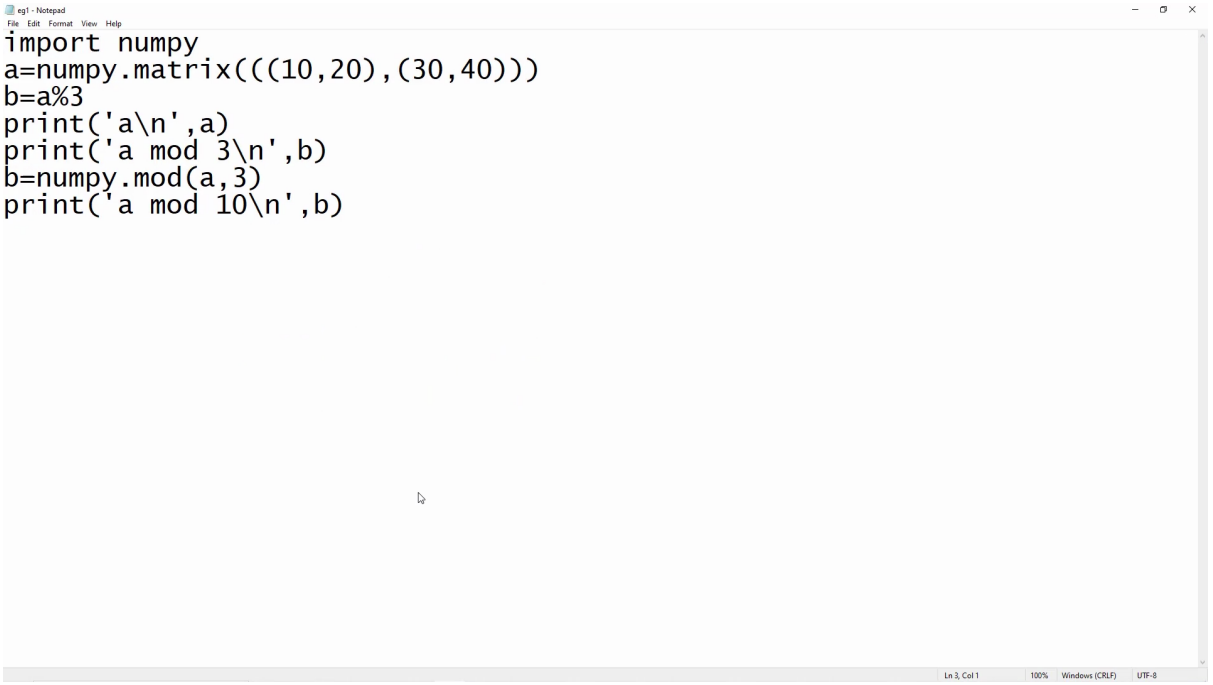

eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a-10
print('a\n',a)
print('a+10\n',b)
b=numpy.subtract(a,10)
print('a+10\n',b)
Ln 3, Col 1
100%
Windows (CRLF)
UTF-8


eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*10
print('a\n',a)
print('a+10\n',b)
b=numpy.dot(a,10)
print('a+10\n',b)
Ln 3, Col 1
100%
Windows (CRLF)
UTF-8

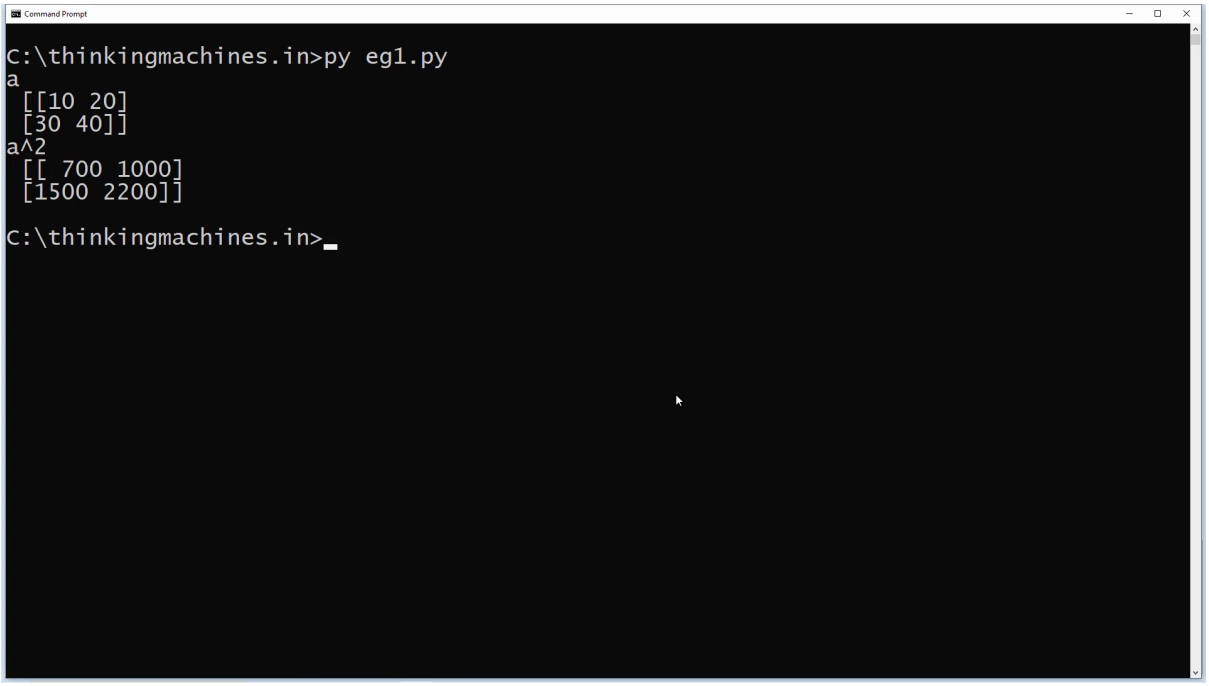

eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a/10
print('a\n',a)
print('a+10\n',b)
b=numpy.divide(a,10)
print('a+10\n',b)
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8

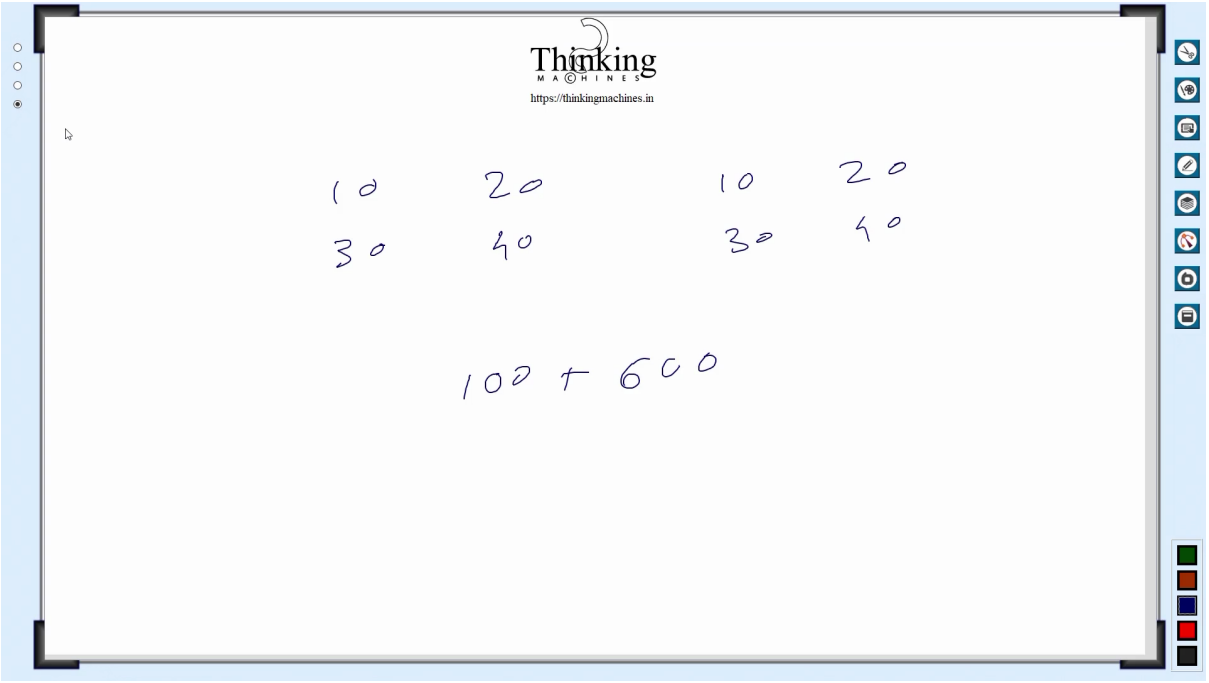

*eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a%10
print('a\n',a)
print('a/10\n',b)
b=numpy.divide(a,10)
print('a/10\n',b)
Ln 6, Col 7
100%
Windows (CRLF)
UTF-8


Command Prompt
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a+10
[[1. 2.]
[3. 4.]]
a+10
[[1. 2.]
[3. 4.]]
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a mod 3
[[1 2]
[0 1]]
a mod 10
[[1 2]
[0 1]]
C:\thinkingmachines.in>


eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a%3
print('a\n',a)
print('a mod 3\n',b)
b=numpy.mod(a,3)
print('a mod 10\n',b)
Ln 3, Col 1
100%
Windows (CRLF)
UTF-8


*eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*a
print('a\n',a)
print('a^2\n',b)
Ln 6, Col 1
100%
Windows (CRLF)
UTF-8


Command Prompt
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a^2
[[700 1000]
[1500 2200]]
C:\thinkingmachines.in>


Thinking
MACHINES
https://thinkingmachines.in
10 20 10 20
30 40 30 40
100 + 600

eg1 - Notepad

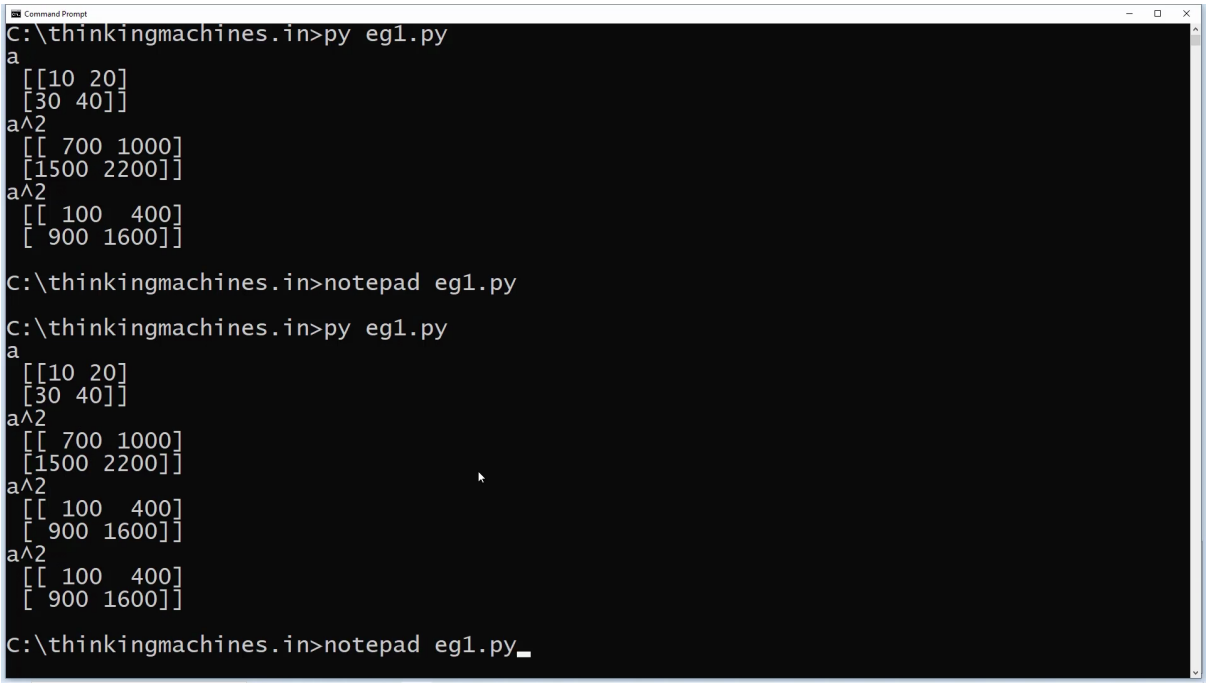
File Edit Format View Help

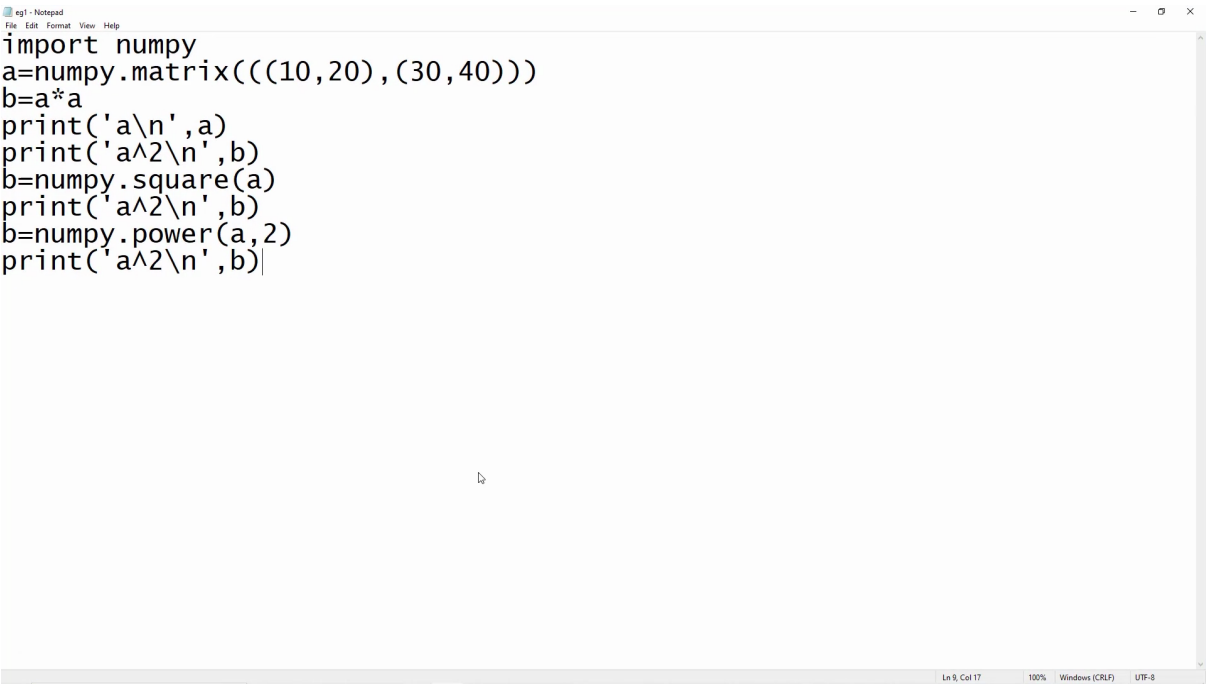
```
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*a
print('a\n',a)
print('a^2\n',b)
```

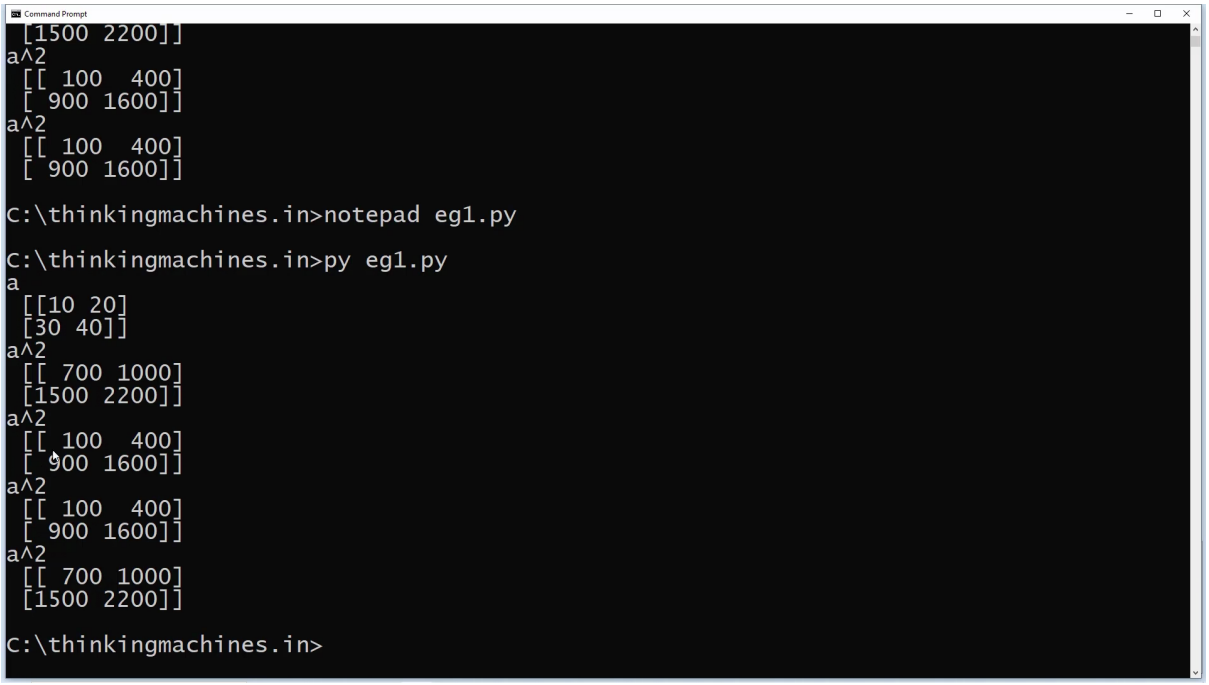
Ln 1, Col 1 100% Windows (CRLF) UTF-8

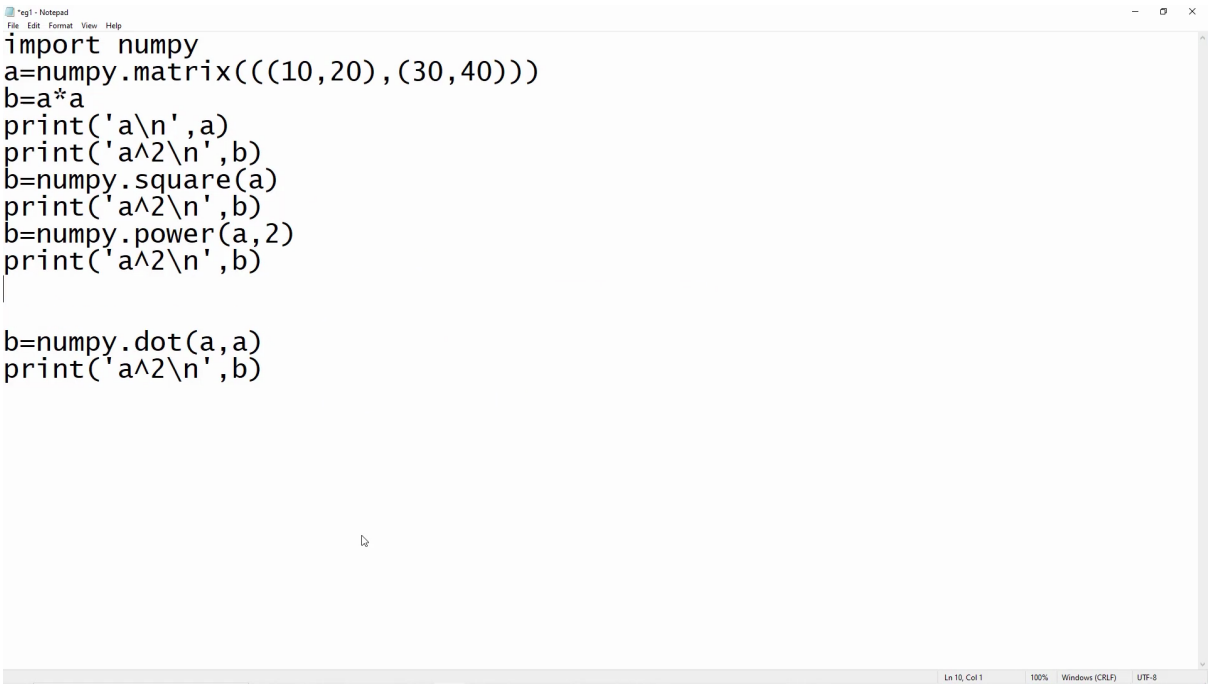
Command Prompt

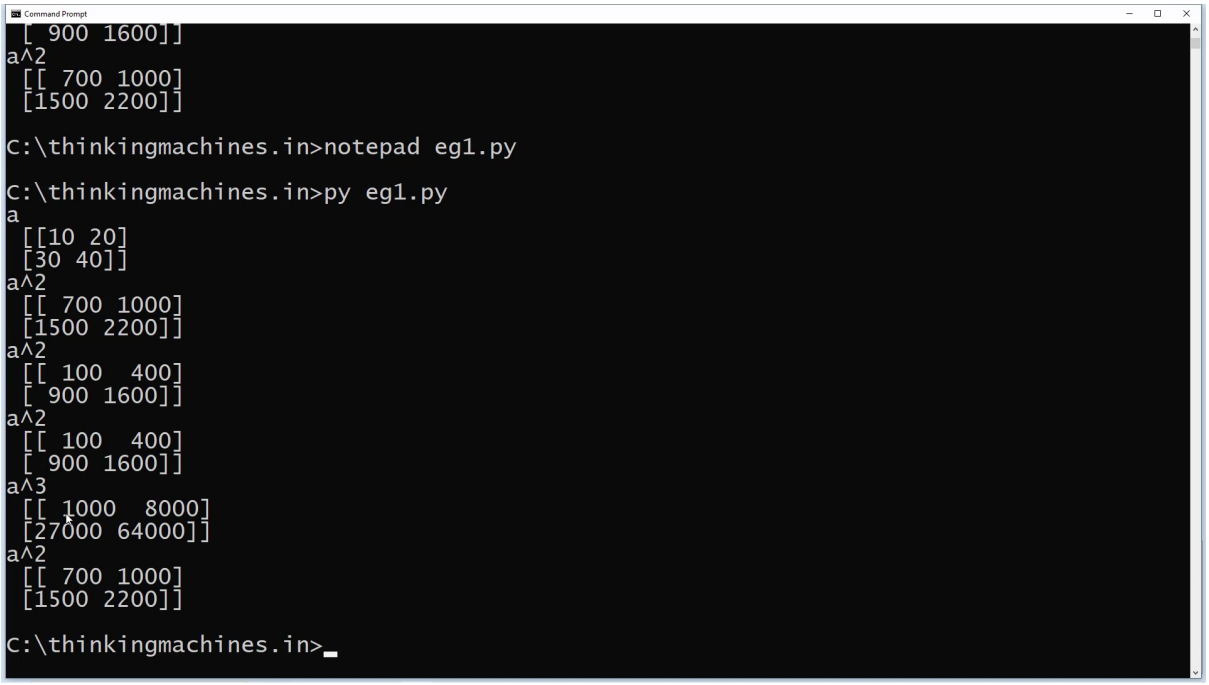
```
C:\thinkingmachines.in>py eg1.py
a
 [[10 20]
 [30 40]]
a^2
 [[ 700 1000]
 [1500 2200]]

C:\thinkingmachines.in>notepad eg1.py

C:\thinkingmachines.in>py eg1.py
a
 [[10 20]
 [30 40]]
a^2
 [[ 700 1000]
 [1500 2200]]
a^2
 [[ 100  400]
 [ 900 1600]]

C:\thinkingmachines.in>
```

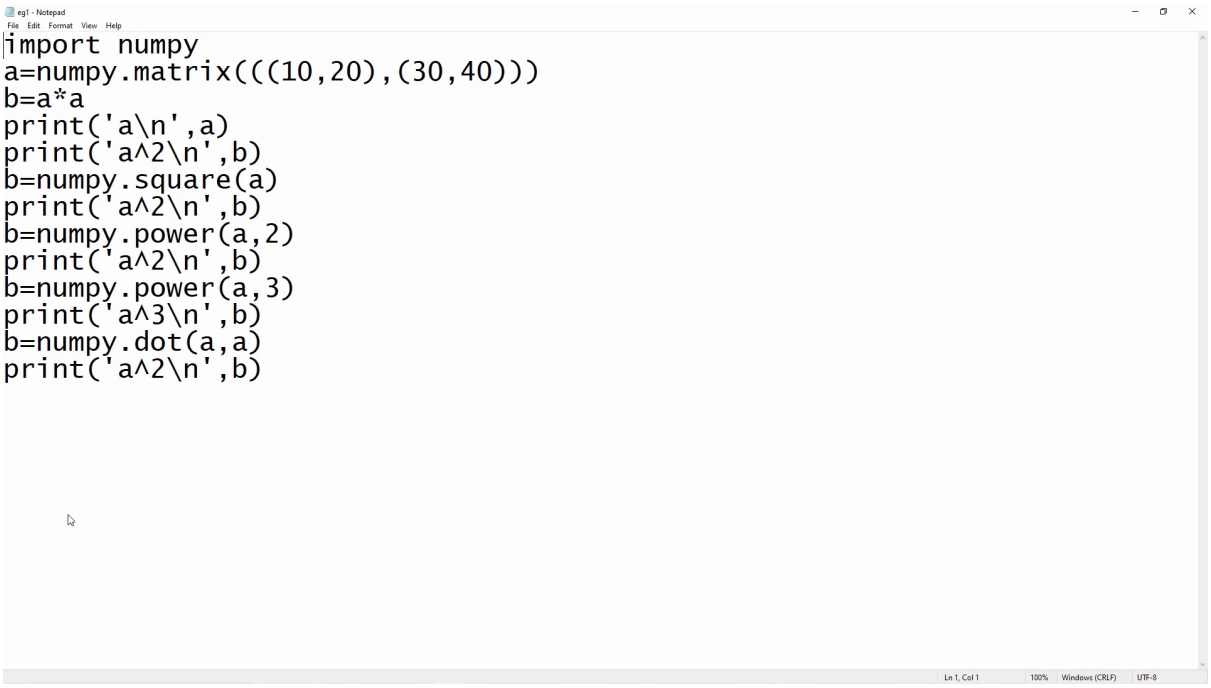

Command Prompt
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a^2
[[700 1000]
[1500 2200]]
a^2
[[100 400]
[900 1600]]
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a^2
[[700 1000]
[1500 2200]]
a^2
[[100 400]
[900 1600]]
a^2
[[100 400]
[900 1600]]
C:\thinkingmachines.in>notepad eg1.py


eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*a
print('a\n',a)
print('a^2\n',b)
b=numpy.square(a)
print('a^2\n',b)
b=numpy.power(a,2)
print('a^2\n',b)
Ln 9, Col 17
100%
Windows (CRLF)
UTF-8


Command Prompt
[1500 2200]]
a^2
[[100 400]
[900 1600]]
a^2
[[100 400]
[900 1600]]
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a^2
[[700 1000]
[1500 2200]]
a^2
[[100 400]
[900 1600]]
a^2
[[100 400]
[900 1600]]
a^2
[[700 1000]
[1500 2200]]
C:\thinkingmachines.in>


*eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*a
print('a\n',a)
print('a^2\n',b)
b=numpy.square(a)
print('a^2\n',b)
b=numpy.power(a,2)
print('a^2\n',b)
b=numpy.dot(a,a)
print('a^2\n',b)
Ln 10, Col 1
100%
Windows (CRLF)
UTF-8


Command Prompt
[900 1600]]
a^2
[[700 1000]
[1500 2200]]
C:\thinkingmachines.in>notepad eg1.py
C:\thinkingmachines.in>py eg1.py
a
[[10 20]
[30 40]]
a^2
[[700 1000]
[1500 2200]]
a^2
[[100 400]
[900 1600]]
a^2
[[100 400]
[900 1600]]
a^3
[[1000 8000]
[27000 64000]]
a^2
[[700 1000]
[1500 2200]]
C:\thinkingmachines.in>


eg1 - Notepad
File Edit Format View Help
import numpy
a=numpy.matrix(((10,20),(30,40)))
b=a*a
print('a\n',a)
print('a^2\n',b)
b=numpy.square(a)
print('a^2\n',b)
b=numpy.power(a,2)
print('a^2\n',b)
b=numpy.power(a,3)
print('a^3\n',b)
b=numpy.dot(a,a)
print('a^2\n',b)
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8