Spoken Tutorial, IIT Bombay https://spoken-tutorial.org Python 3.4.3

Advanced Matrix Operations - Assignments

Assignment-1

1. Find out the Frobenius norm of the inverse 4x4 matrix.

```
m= [[ 1, 0, 3, 4],
 [ 5, 6, 7, 0],
 [ 9, 10, 11, 12],
 [13, 14, 15, 16]]
```

Assignment-2

1. Find the infinity norm of the matrix 'im'

```
\begin{split} \mathrm{im} = & [[\ 2.50000000\mathrm{e}\text{-}01,\ -6.25000000\mathrm{e}\text{-}02,\ -2.50000000\mathrm{e}\text{+}00,\ 1.81250000\mathrm{e}\text{+}00],\\ & [-5.00000000\mathrm{e}\text{-}01,\ 1.54638207\mathrm{e}\text{-}16,\ 1.50000000\mathrm{e}\text{+}00,\ -1.00000000\mathrm{e}\text{+}00],\\ & [\ 2.50000000\mathrm{e}\text{-}01,\ 1.87500000\mathrm{e}\text{-}01,\ 5.00000000\mathrm{e}\text{-}01,\ -4.37500000\mathrm{e}\text{-}01],\\ & [\ 1.24900090\mathrm{e}\text{-}16,\ -1.250000000\mathrm{e}\text{-}01,\ 2.50000000\mathrm{e}\text{-}01,\ -1.25000000\mathrm{e}\text{-}01]] \end{split}
```

Assignment-3

- 1. norm(A,ord='fro') is the same as norm (A)?
 - > True
 - > False