ipython1

October 11, 2016

1 Numpy Calculations

   2)   a)

```
In [1]: import numpy as np

        A = np.array([[3/20, -1/20],
                      [1/20, -7/100]])
        b = np.array([[1],[2]])

        v = np.linalg.solve(A,b)
        print (v)

[[ -3.75]
 [-31.25]]
```

   2)   b)

```
In [2]: import numpy as np
        A = np.array([[1/10 + 1/20 + 1/50, -10, -1/50],
                      [0, 1/60 + 1/55, -1/55],
                      [-1/50, -1/55, 1/50 + 1/55]])
        b = np.array([[1/10 + 1/5],[0],[-1/5]])

        v = np.linalg.solve(A,b)
        print(v)

[[ 10.40226382]
 [  0.14627775]
 [  0.28036569]]
```

   4) Verifying with Nodal Analysis

```
In [3]: import numpy as np
        A = np.array([[1/1.5, -1/1.5],
                      [-1/1.5, 1/3 + 1/1.5 + 1/3]])
        b = np.array([[-1],[-5/3]])

        v = np.linalg.solve(A,b)
        print(v)

[[-5.5]
 [-4. ]]

In [ ]:
```