genera_sistema

April 12, 2019

```python
In [1]: # Genera matrix

        import numpy as np
        import random as rdm


        def genera_sistema(nrow):
            a = np.eye(nrow)*1000
            cum = np.zeros(nrow)
            for i in range(nrow):
                for j in range(nrow):
                    a[i,j] = rdm.uniform(0, nrow**2/50000)
                    cum[i]+= a[j,i]

            for j in range(nrow):
                for i in range(nrow):
                    a[i,j] /= (cum[j]+1)


            d = np.zeros(nrow)
            for i in range(nrow):
                d[i] = rdm.randrange(90)+10

            return a, 1000*d.reshape(nrow, 1)
```

```python
In [3]: # geera un sistema de 20 x20
        A0, d0 = genera_sistema(20)
```

```python
In [5]: A0
```

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1

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In [7]: d0

Out[7]: array([[10000.],
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