Mona Esmaeili

1. What is the output for Matrix M? Give (print) the matrix.

	A	B	C	D	E	F
A	0.0	0.000000	0.000000	0.000000	0.00	0.0
B	1.0	0.000000	0.333333	0.333333	0.25	0.0
C	0.0	0.333333	0.000000	0.333333	0.25	0.0
D	0.0	0.333333	0.333333	0.000000	0.25	0.0
E	0.0	0.333333	0.333333	0.333333	0.00	0.0
F	0.0	0.000000	0.000000	0.000000	0.25	0.0

2. What is the output of Matrix A? After applying teleportation. Give (print) the matrix.

```
[[0.025      0.025      0.025      0.025      0.025      0.025      ]
 [0.875      0.025      0.30833333 0.30833333 0.2375     0.025      ]
 [0.025      0.30833333 0.025      0.30833333 0.2375     0.025      ]
 [0.025      0.30833333 0.30833333 0.025      0.2375     0.025      ]
 [0.025      0.30833333 0.30833333 0.30833333 0.025      0.025      ]
 [0.025      0.025      0.025      0.025      0.2375     0.025      ]]
```

3. What is the original rank vector (R)?

```
[[0.16666667]
 [0.16666667]
 [0.16666667]
 [0.16666667]
 [0.16666667]
 [0.16666667]]
```

4. What is the Converged rank vector (R')? When you use Matrix A and M, give answer for both.

Iteration is 143

```
[[0.00000000e+00]
 [1.25876784e-05]
 [1.25876784e-05]
 [1.25876784e-05]
 [1.34734421e-05]
 [3.60538370e-06]]
```

5. How many iterations did it take to get the convergence? When you use Matrix A and M, give answer for both.

Iteration 46

```
[[0.025     ]
 [0.15901537]
 [0.14245693]
 [0.14245693]
 [0.15077911]
 [0.05704034]]
```

Github: https://github.com/monaesmaeili/Information-retrieval