TCSS554 HW2 PageRank
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1. The output of Matrix M is:

```
[[ 0.     0.     0.     0.     0.     0.    ]
 [ 1.     0.     0.3333 0.3333 0.25   0.    ]
 [ 0.     0.3333 0.     0.3333 0.25   0.    ]
 [ 0.     0.3333 0.3333 0.     0.25   0.    ]
 [ 0.     0.3333 0.3333 0.3333 0.     0.    ]
 [ 0.     0.     0.     0.     0.25   0.    ]]
```

2. After teleportation, the output of Matrix A is:

```
[[ 0.025  0.025  0.025  0.025  0.025  0.025 ]
 [ 0.85   0.025  0.2833 0.2833 0.2125 0.025 ]
 [ 0.025  0.2833 0.025  0.2833 0.2125 0.025 ]
 [ 0.025  0.2833 0.2833 0.025  0.2125 0.025 ]
 [ 0.025  0.2833 0.2833 0.2833 0.025  0.025 ]
 [ 0.025  0.025  0.025  0.025  0.2125 0.025 ]]
```

Note: The values in the matrix above have been rounded to 4 decimals

3. The original rank vector(R) is:

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

4. When using Matrix M, the Converged rank vector(R') is:

```
[[  0.00000000e+00]
 [  3.23063001e-06]
 [  3.23063001e-06]
 [  3.23063001e-06]
 [  3.45796142e-06]
 [  9.25322395e-07]]
```

So basically the matrix is NOT converged by just using Matrix M

When using Matrix A, the Converged rank vector(R') is:

[[0.025]
[0.15901989]
[0.14246144]
[0.14246144]
[0.15078394]
[0.05704163]]

5.

When using Matrix M, the iterations taken to get the converge is: 163

When using Matrix A, the iterations taken to get the converge is: 49