

```

> #OK to post hw
> #Anne Somalwar, 9.27.2021, hw6
>
> read "C:/Users/aks238/OneDrive - Rutgers University/Documents/M5.txt"
>
>
> #1
> GrowthCe([0.1, 1.2*0.95, 0.9*0.97, 0.1*0.9])
1.396724779 (1)

```

```

>
> #2
> LeslieMat([0.95, 0.97, 0.9], [0.1, 1.2, 0.9, 0.1])
      0.1  1.2  0.9  0.1
      0.95  0   0   0
      0   0.97  0   0
      0   0   0.9  0

```

```

> Eigenvalues(%)
      1.38573262885364 + 0. I
      -0.583351516086360 + 0.403125877485025 I
      -0.583351516086360 - 0.403125877485025 I
      -0.119029596680917 + 0. I

```

```

>
> #3
> M := Matrix(
      [[ [0.5, 0.5/3, 0.5/3, 0.5/3], [0.2, 0.4, 0.2, 0.2], [0.7/3, 0.7/3, 0.3, 0.7/3], [0.8/3, 0.8/3, 0.8/3, 0.2] ] ] )
      M :=
      0.5      0.1666666667  0.1666666667  0.1666666667
      0.2      0.4          0.2          0.2
      0.2333333333  0.2333333333  0.3      0.2333333333
      0.2666666667  0.2666666667  0.2666666667  0.2

```

```

> M^1000
      0.315197007189532  0.262664172672962  0.225140719443162  0.196998129500332
      0.315197007144515  0.262664172635447  0.225140719411007  0.196998129472196
      0.315197007112359  0.262664172608651  0.225140719388038  0.196998129452099
      0.315197007176892  0.262664172662428  0.225140719434133  0.196998129492432

```

```

> #Fraction of surfers at S1: 0.315

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```
|> #Fraction of surfers at S2: 0.262
|=> #Fraction of surfers at S3: 0.225
|=> #Fraction of surfers at S4: 0.197
|=
|=> #Page rank:
|=> #1: S1
|=> #2: S2
|=> #3: S3
|=> #4: S4
|=>
```