

Prob1_sim

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This the program for simulation.

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In [23]: import numpy as np
```

```
P = np.array([[1/2, 1/4, 0, 0, 1/4],
               [1/4, 1/2, 1/4, 0, 0],
               [0, 1/4, 1/2, 1/4, 0],
               [0, 0, 1/4, 1/2, 1/4],
               [1/4, 0, 0, 1/4, 1/2]])
P = np.mat(P) # use matrix for power calculation
p_0 = np.array([[25/150, 20/150, 35/150, 24/150, 46/150]]) # prior
np.set_printoptions(precision=5)
p_100 = p_0 @ (P**100)
print(p_100)
```

```
[[0.2 0.2 0.2 0.2 0.2]]
```