

## Assignment 10

1. Consider a Markov chain with state space  $\{0, 1\}$  and a transition matrix

$$\mathbf{P} = \begin{bmatrix} 1 - p^2 & p^2 \\ q^2 & 1 - q^2 \end{bmatrix}$$

Find the stationary distribution of the Markov chain.