**Exercise\_01: Finding the Value Function in an MRP**

In this exercise, we are going to solve the Bellman expectation equation by finding the value function for the MRP in the following figure. We will use **scipy** and the **linalg** module to solve the linear equation presented in the previous section. We will also demonstrate how to define a transition probability matrix and how to calculate the expected reward for each state:

Figure 2.20: Example of an MRP with three states


Figure 1: Example of an MRP with three states