$$v(s) = R_s + \gamma P_{ss'} v(s')$$

$$\underset{v}{\begin{bmatrix} v(1) \\ v(2) \\ \vdots \\ v(m) \end{bmatrix}} = \underset{R}{\begin{bmatrix} R_1 \\ R_2 \\ \vdots \\ R_m \end{bmatrix}} + \gamma \underset{P}{\begin{bmatrix} P_{11} & \cdots & P_{1m} \\ \vdots & \ddots & \vdots \\ P_{m1} & \cdots & P_{mm} \end{bmatrix}} \underset{v}{\begin{bmatrix} v(1) \\ v(2) \\ \vdots \\ v(m) \end{bmatrix}}$$

$$v = R + \gamma P v$$

$$v - \gamma P v = R$$

$$v(I - \gamma P) = R$$

$$v = (I - \gamma P)^{-1} R$$

* $O(m^3)$ complexity
* Interactive methods to solve this eq.
  - ↳ Monte Carlo
  - ↳ Dynamic Programming
  - ↳ Temporal-Difference Learning