$$\pi = \varepsilon \mu G$$

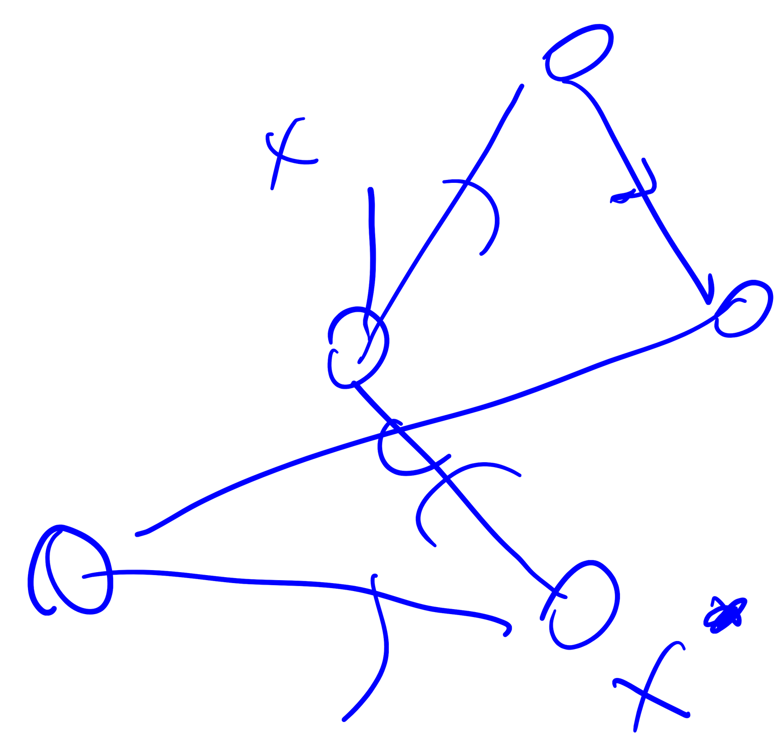
$$\mu = \mathbb{1}_{y = x^*}$$

$$G(x,y) = \sum_{n \geq 0} \left(\underline{K - \varepsilon \mu} \right)^n (x,y)$$

$$K(x,y) \geq \varepsilon(x) \mu(y)$$

$$\varepsilon(x) = K(x, x^*)$$

$$\tau^* = \min_{n \geq 1} \{ X_n = x^* \}$$



$$K - \varepsilon \mu$$

$$= K(x,y) - K(x,y) \mathbb{1}_{y = x^*}$$

$$= K(x,y) \mathbb{1}_{y \neq x^*}$$

$$= P_x(X_1 = y, \, y \neq x^*)$$

similarly

$$(K - \varepsilon \mu)^n = \mathbb{P}_x(X_n = y, \tau^* > n)$$

$$= \mathbb{E}_x[\mathbb{1}_{X_n = y, \tau^* > n}]$$

$$\pi(y) = \frac{\mu(y)}{\mu(X)} = \frac{\rho(y)}{\rho(X)} = \frac{E_{x^\circ}\left[\sum_{n=1}^{T^{x^\circ}-1} \mathbb{1}_{X_n = y}\right]}{E_{x^\circ}[T^\circ]}$$

$\forall \varepsilon$

$$\mu(y) = \sum_{n \geq 0} \mathbb{E}_{x^\circ}\left[\mathbb{1}_{y = X_n,\, T^\circ > n}\right]$$

$$= \mathbb{E}_{x^\circ}\left[\underbrace{\sum_{n=0}^{T^\circ - 1}\left[\mathbb{1}_{y = X_n}\right]}\right] = \underline{\rho(y)}$$