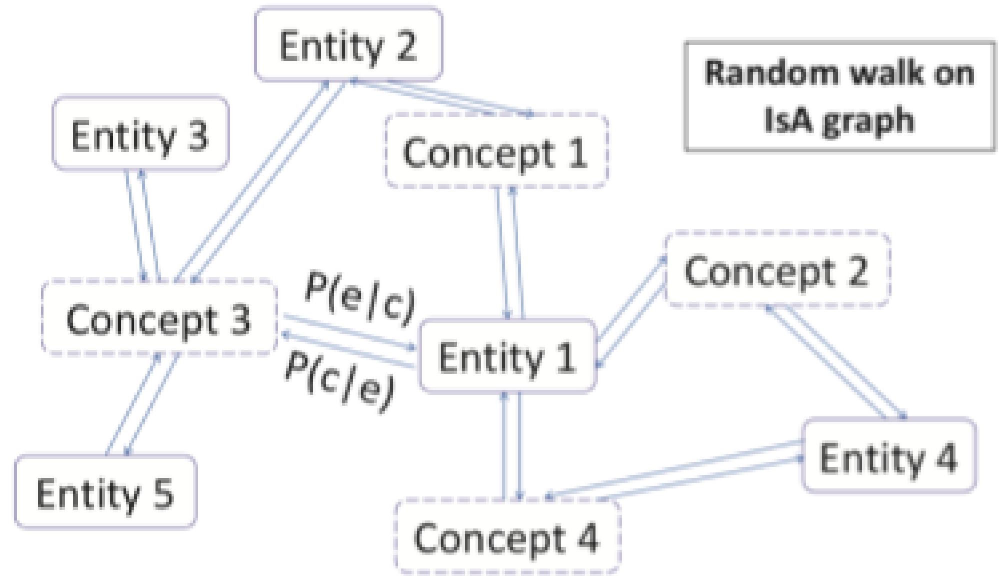
Using Rep(e, c) for BLC

$$Rep(e,c) = P(c|e)\cdot P(e|c)$$

equivalent

$$blc(e) = \arg\max_{c} Rep(e,c)$$



$$\begin{aligned} Time(e,c) &= \sum_{k=1}^{\infty}(2k)*P_k(e,c) \\ &= \sum_{k=1}^{T}(2k)*P_k(e,c) + \sum_{k=T+1}^{\infty}(2k)*P_k(e,c) \\ &\geq \sum_{k=1}^{T}(2k)*P_k(e,c) \\ &\quad +2(T+1)*(1-\sum_{k=1}^{T}P_k(e,c)) \qquad (9) \end{aligned}$$

constrain the random walk within 4 steps

$$\begin{aligned} Time'(e,c) &= 2*P(c|e)P(e|c) + 4*(1-P(c|e)P(e|c)) \\ &= 4-2*P(c|e)P(e|c) \\ &= 4-2*Rep(e,c) \qquad (10) \end{aligned}$$

Pk(e,c) is the probability of starting from e to c and back to e in 2k steps