

$$i(e, e') := \begin{cases} 0 & \text{if } e = e' \text{ or } e \cap e' = \emptyset; \\ 1 & \text{if } e' \text{ is lying on the left side in } e; \\ -1 & \text{if } e' \text{ is lying on the right side of } e. \end{cases}$$