

citationCount : Author  $\rightarrow$   $\mathbb{N}$

$$\text{citationCount}(a) = |\{p_2 \in \text{Paper} \mid \exists p_1.(a, p_1) \in \text{published} \wedge (p_2, p_1) \in \text{cites}\}|$$

number papers : Author  $\rightarrow$   $\mathbb{N}$

$$\text{number papers}(a) = |\{p_1 \in \text{Paper} \mid (a, p_1) \in \text{published}\}|$$

number of coauthors : Author  $\rightarrow$   $\mathbb{N}$

$$\begin{aligned} \text{number of coauthors}(a) = & |\{a_2 \in \text{Author} \mid \exists p \in \text{Paper} : (a, p) \in \text{published} \\ & \wedge (a_2, p) \in \text{published} \wedge a \neq a_2\}| \end{aligned}$$

citation count : Paper  $\rightarrow$   $\mathbb{N}$

$$\text{citation count}(p) = |\{p_2 \in \text{Paper} \mid (p_2, p) \in \text{cites}\}|$$

papers with n citations : Author  $\times$   $\mathbb{N} \rightarrow$   $\mathbb{N}$

$$\begin{aligned} \text{papers with n citations}(a, n) = & |\{p \in \text{Paper} \mid \text{citation count}(p) \geq n \\ & \wedge (a, p) \in \text{published}\}| \end{aligned}$$

h-index : Author  $\rightarrow$   $\mathbb{N}$

$$\text{h-index}(a) = \max \{n \in \mathbb{N} \mid \text{papers with n citations}(a, n) \geq n\}$$