

Relation domain and range

- The *domain* of a relation $R \in S \leftrightarrow T$ is the subset of elements of S that are related to something in T
- Relation domain (denoted as $dom(R)$) is defined by $\{x \mid x \in S \wedge \exists y. (y \in T \wedge (x, y) \in R)\}$
- Example: $dom(owns_camera) = \{Jonas, Vaidas, Vaiva, Sandra\}$
- The *range* of a relation $R \in S \leftrightarrow T$ is the subset of elements of T that are related to something in S
- Relation range (denoted as $ran(R)$) is defined by $\{y \mid y \in T \wedge \exists x. (x \in S \wedge (x, y) \in R)\}$
- Example: $ran(owns_camera) = \{Canon, Nikon, Sony, Pentax\}$