

Definition (Graph). A *graph* $\mathcal{G} = \langle \mathbf{V}, \mathbf{A}, \text{src}, \text{tgt} \rangle$ consists of a set of vertices \mathbf{V} , a set of arrows \mathbf{A} , and two functions $\text{src}, \text{tgt} : \mathbf{A} \rightarrow \mathbf{V}$, called the *source* and *target* functions, respectively. Given $a \in \mathbf{A}$ with $\text{src}(a) = v$ and $\text{tgt}(a) = w$, we say that a is an *arrow* from v to w .