

Class Exercise

Let $G = (V, E)$ denote a graph.

What do the following statements mean?

1. $\forall v \in V, \exists y \in V \text{ s.t. } (v, y) \in E$
2. $\exists y \in V \text{ s.t. } \forall v \in V \setminus \{y\}, (v, y) \in E$
3. $\forall \{a, b\} \subseteq V, (a, b) \in E$

Find an example of a graph that satisfies the first of these statements but not the others.