Definition (Totally ordered set). A partially ordered set $\langle \mathbf{P}, \preceq_{\mathbf{P}} \rangle$ is a *totally ordered set* if the relation $\preceq_{\mathbf{P}}$ is *total*. In other words, if:

$$\frac{\top}{(p \preceq_{\mathbf{P}} q) \vee (q \preceq_{\mathbf{P}} p)}$$