For each point x of such a set $\mathcal{O}$, if $x_n \longrightarrow x$ there must be an $\varepsilon_0 > 0$ s.t. for all $0 < \varepsilon < \varepsilon_0$

$$D_\varepsilon(x) \subseteq \mathcal{O}$$

so that $x_n \in \mathcal{O}$ for all n suff large

Defn $\mathcal{O} \subseteq m$ is an **open set** in m iff $\forall x \in \mathcal{O}$ $\exists\, \varepsilon > 0$ s.t.

$$D_\varepsilon(x) \subseteq \mathcal{O}.$$

(m, d)