Definition: Interior of a Set

For $S \subseteq \mathbb{R}^n$ we have the interior of S:

$$\mathring{S} \overset{\mathrm{D}}{=} \left\{ x \in \mathbb{R}^n : \exists \varepsilon \in \mathbb{R}^{>0}, B\left(x, \varepsilon\right) \subseteq S \right\}$$