arg min and arg max

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Entry type	Definition
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Defines	argmin argmax

For a real-valued function f with domain S, $\arg\min_{x \in S} f(x)$ is the set of elements in S that achieve the global minimum in S,

$$\arg\min_{x \in S} f(x) = \{x \in S : f(x) = \min_{y \in S} f(y)\}.$$

$\arg\max_{x \in S} f(x)$ is the set of elements in S that achieve the global maximum in S,

$$\arg\max_{x \in S} f(x) = \{x \in S : f(x) = \max_{y \in S} f(y)\}.$$