

study of extremes

Maxima

minima

Absolute

local

subclasses of extrema

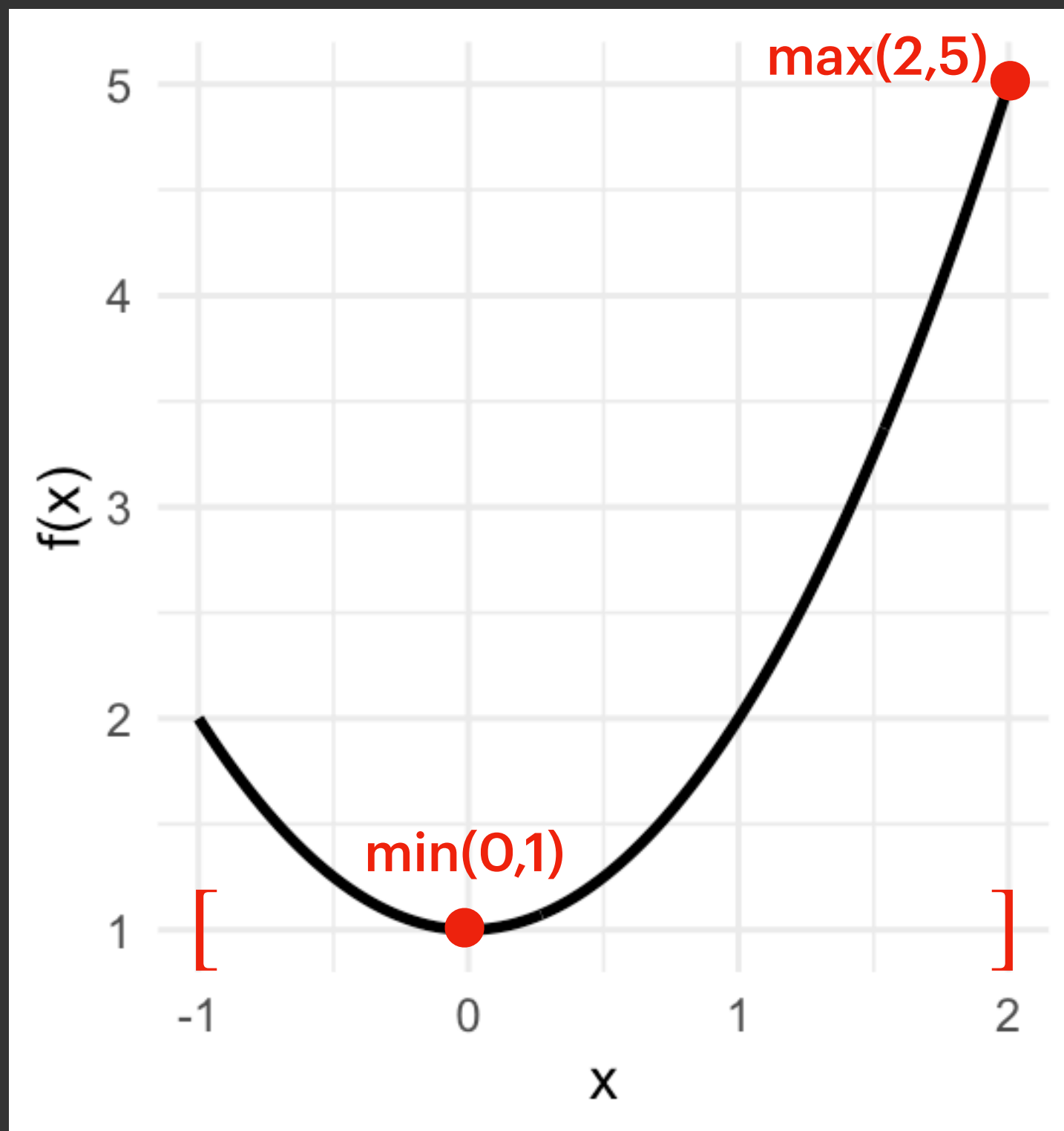
Extrema can be divided in the following subsections

- **Maxima** and **minima**
- **Absolute** (or global) and **local** (or relative) extrema

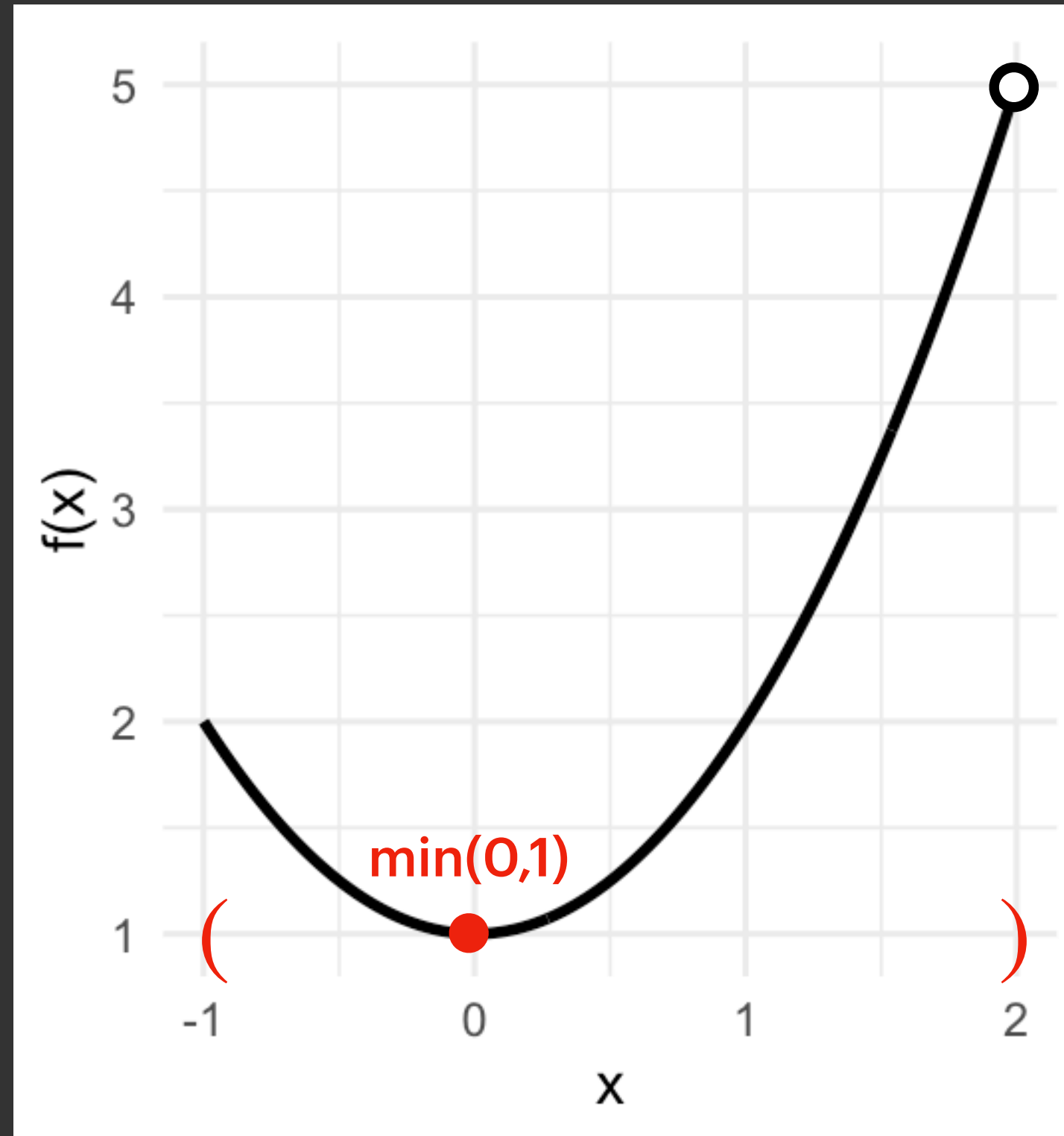
Note: Extrema, Maxima and Minima are the plural form of Extremum, Maximum and Minimum, respectively

example

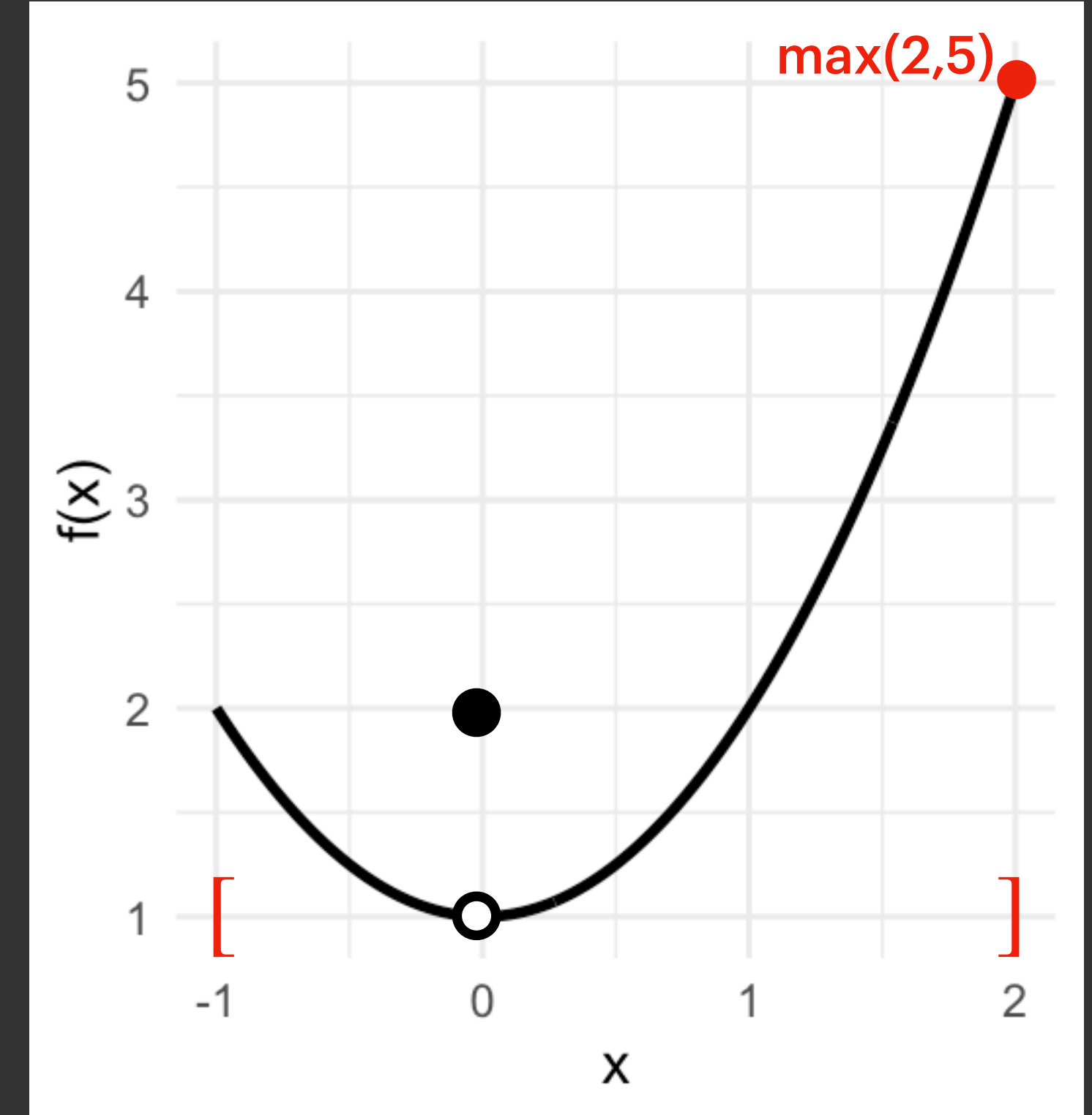
$$f(x) = x^2 + 1$$



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$$f(x) = \begin{cases} x^2 + 1, & x \neq 0 \\ 2, & x = 0 \end{cases}$$



extrema can occur in interior points or endpoint of an interval,
extrema occurring at endpoints are called **endpoint extrema**