

- $M_i^f = \sup \{f(x) \mid x \in [x_{i-1}, x_i]\}$
- $m_i^f = \inf \{f(x) \mid x \in [x_{i-1}, x_i]\}$
- $U(P, f) = \sum_{i=1}^n M_i^f \Delta x_i$
- $L(P, f) = \sum_{i=1}^n m_i^f \Delta x_i$
- $\int_a^b f(x) \, dx = \sup \{L(P, f) \mid P \text{ partición}\}$
- $\int_a^{\bar{b}} f(x) \, dx = \inf \{U(P, f) \mid P \text{ partición}\}$