

- $M_i^f = \sup \{f(x) \mid x \in [x_{i-1}, x_i]\}$

- $m_i^f = \inf \{f(x) \mid x \in [x_{i-1}, x_i]\}$

- $U(P, f) = \sum_{i=1}^n M_i^f \Delta x_i$

- $L(P, f) = \sum_{i=1}^n m_i^f \Delta x_i$