Parallel Imperation Integration, Derivation A = 9+6 h area of Trapposid : b base h height h: Im -xi each area under the graph using trapezoids the area of each in te Iverval trapezoid the fant tam h f(xi) + f(xi+) (xi+1 -xi) flig + fam Dx

To improve our approximation we have to refine of partition to have a

Darallel Trapezoidal Integration,
Derivation:
area of Trapezoid = $A = Z^{h}$
Q: base b: base h: height b
h= x(+, -xi +i >0 (0, n-1)
To The First State of the State
approximating each area under the graph using trapezoids Stick coch stape the area of each trapezoid in the Interval
$\Delta_i = \frac{1}{2} \frac{1}{2$
$= \frac{f(x_i) + f(x_{i+1})}{z} \left(\chi_{i+1} - \chi_i \right)$
$\sum_{i \in \text{Rived}} \frac{f(x_i) + f(x_{i+1})}{2} \Delta x$

To improve our approximation we have to refine of partition to have 1

The integral from a to b MADAMANA $\approx \frac{\Delta x}{z} \left(f(x_0) + f(x_1) \right) + \dots + \frac{\Delta x}{z} \left(f(x_{n-1}) + f(x_n) \right)$ $= \frac{\Delta x}{z} \sum_{i=0}^{n-1} f(x_i) + f(x_{n-1})$ where delta x is given by $\frac{b-9}{a}$ in MADAMANA