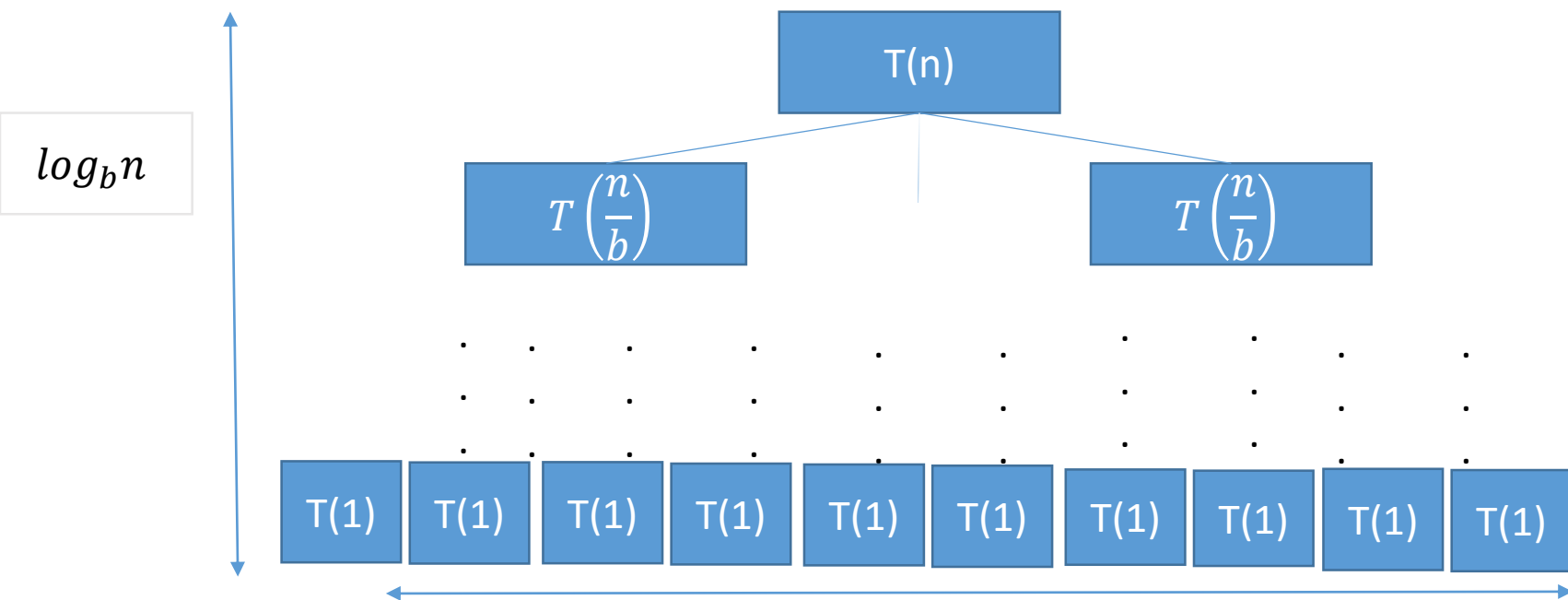$$T(n) = aT\left(\frac{n}{b}\right) + f(n)$$

Non recursion cost

f(n)

$af(\frac{n}{b})$

$a^2 f(\frac{n}{b^2})$

$a^i \, f(\frac{n}{b^i})$

$log_b n$

T(n)

$T\left(\frac{n}{b}\right)$

$T\left(\frac{n}{b}\right)$

T(1) T(1) T(1) T(1) T(1) T(1) T(1) T(1) T(1) T(1)

$a^{log_b n} = n^{log_b a}$

$$T(n) = \sum_{i=0}^{log_b n - 1} a^i f(\frac{n}{b^i}) + cn^{log_b a}$$