

$$\text{strcmp}_{\text{internal}}(a, b, n) := \begin{cases} |a| - |b| & n \geq |a| \vee n \geq |b| \\ a_n - b_n & a_n \neq b_n \\ \text{strcmp}_{\text{internal}}(a, b, n+1) & a_n = b_n \end{cases}$$

$$\text{strcmp}(a, b) := \text{strcmp}_{\text{internal}}(a, b, 0)$$

$$a := \{'t', 'o', 'm', 'a', 't', 'o'\} \Rightarrow |a| = 6$$

$$b := \{'t', 'o', 'm', 'm', 'y'\} \Rightarrow |b| = 5$$

$$\text{strcmp}(a, b) = -1$$