Ejercicio 3

Empty

$W([\,]) = \emptyset \rhd [\,]_s : [s]$

Cons

$W(U :: V) = S\Gamma_1 \cup S\Gamma_2 \rhd S(M :: N) : S\tau$ donde

- $W(U) = \Gamma_1 \rhd M : \sigma$
- $W(V) = \Gamma_2 \rhd N : \tau$
- $S = MGU\{\tau \doteq [\sigma]\} \cup \{\sigma_1 \doteq \sigma_2 \mid x : \sigma_1 \in \Gamma_1, x : \sigma_2 \in \Gamma_2\}$

ZipWith

$$W(zip\ U\ and\ V\ with\ x, y \rightsquigarrow W) = \bigcup_{i=1}^{3} S\Gamma_i \rhd S(zip\ M\ and\ N\ with\ x, y \rightsquigarrow O) : [\rho]$$

donde

- $W(U) = \Gamma_1 \rhd M : \sigma$
- $W(V) = \Gamma_2 \rhd N : \tau$
- $W(W) = \Gamma_3 \rhd O : \rho$
- $\Gamma_{3'} = \Gamma_3 \ominus \{x,\ y\}$
- $S = MGU\{\sigma \doteq [\tau_x], \tau \doteq [\tau_y]\} \cup \{\sigma_1 \doteq \sigma_2 \mid x : \sigma_1 \in \Gamma_i, x : \sigma_2 \in \Gamma_j, i, j \in \{1, 2, 3'\}\}$
- $\tau_y = \begin{cases} \beta & si\ y : \beta \in \Gamma_3 \\ \text{variable fresca si no} \end{cases}$
- $\tau_x = \begin{cases} \alpha & si\ x : \alpha \in \Gamma_3 \\ \text{variable fresca si no} \end{cases}$