

5 $\lambda z. \text{if } z \text{ then zero else succ(zero)}$
 $\quad \quad \quad | \text{ABS}$

4 $\text{if } z \text{ then zero else succ(zero)}$

$\quad \quad \quad / \quad \quad \quad | \quad \quad \quad |$
 1 z 2 zero 3 $\text{succ(zero)} = 1$

1) $\mathbb{W}(z) \rightsquigarrow z : t_1 \vdash z : t_1$

2) $\mathbb{W}(\text{zero}) \rightsquigarrow \vdash \text{zero} : \text{Nat}$

3) $\mathbb{W}(\text{succ(zero)}) \rightsquigarrow \vdash \text{succ(zero)} : \text{Nat}$

4) $\mathbb{W}(\text{if } \dots) \rightsquigarrow S = \text{mgu}(\{t_1 \doteq \text{Bool}, \text{Nat} \doteq \text{Nat}\})$

$z : \text{Bool} \vdash \text{if } \dots : \text{Nat}$

5) $\mathbb{W}(\lambda z. \text{if } \dots) \rightsquigarrow \vdash \lambda z : \text{Bool}. \text{if } \dots : \text{Bool} \rightarrow \text{Nat}$