

Assignment 1 (Written) Solutions

Typing Judgments to English

If f is (a function) of type $\tau_1 \rightarrow \tau_2$ and g is (a function) of type $\tau_2 \rightarrow \tau_3$, then $f \gg g$ is (a function) of type $\tau_1 \rightarrow \tau_3$.

Typing Rule to English

If e_1 is a boolean expression in the context Γ and e_2 is a boolean expression in the context Γ , then $e_1 \text{ xor } e_2$ is a boolean expression in the context Γ .

Semantic Rules to English

If the expression e_1 evaluates to the true value \top and the expression e_2 evaluates to the value v_2 , then $e_1 \text{ xor } e_2$ evaluates to the negation of v_2 (i.e., $\neg v_2$).

English to Semantic Rules

$$\frac{e_1 \Downarrow \perp \quad e_2 \Downarrow v_2}{e_1 \text{ xor } e_2 \Downarrow v_2} (\text{xorEvalFalse})$$