

Formation rules for Types

$$\frac{}{X \vdash X} \quad \frac{}{\Gamma \vdash I} \quad \frac{\Gamma \vdash T_1 \quad \Gamma \vdash T_2}{\Gamma \vdash T_1 \oplus T_2} \quad \frac{\Gamma \vdash T_1 \quad \Gamma \vdash T_2}{\Gamma \vdash T_1 \otimes T_2} \quad \frac{\Gamma \vdash T}{\Gamma \vdash T^\star} \quad \frac{X \vdash T}{\Gamma \vdash \mu X.T}$$

Formation rules for Values

$$\frac{}{\vdash e^{i\theta} : I} \quad \frac{\vdash v_1 : T_1 \quad \vdash v_2 : T_2}{\vdash v_1 \times v_2 : T_1 \otimes T_2} \quad \frac{\vdash v : T_1}{\vdash \text{inl } v : T_1 \oplus T_2} \quad \frac{\vdash v : T_2}{\vdash \text{inr } v : T_1 \oplus T_2} \quad \frac{\vdash v : T}{\vdash \bar{v} : T^\star} \quad \frac{\vdash v : T[\mu X.T/X]}{\vdash \text{fold } v : \mu X.T}$$

$$\frac{\vdash v_1 : T \quad \vdash v_2 : T}{\vdash v_1 + v_2 : T} \quad \frac{\vdash v_1 : T_1^\star \otimes T_2 \quad \vdash v_2 : T_2^\star \otimes T_3}{\vdash v_1 \circ v_2 : T_1^\star \otimes T_3} \quad \frac{\vdash v_1 : T^\star \quad \vdash v_2 : T}{\vdash v_1, v_2 : T^\star \otimes T}$$