Part A:
Problem 1: Algorithmic rules for BEGIN and LAMBDA

BEGIN RULE:

$$\frac{C_1, \Gamma \vdash e_1 : \tau_1, \ldots\ldots C_n, \Gamma \vdash e_n : \tau_n}{C_1 \wedge C_2 \wedge \ldots\ldots \wedge C_n, \Gamma \vdash \text{BEGIN}(e_1, \ldots e_n) : \tau_n}$$

LAMBDA:

$$\frac{C, \Gamma\{x_1 \mapsto \alpha_1, \ldots\ldots x_n \mapsto \alpha_n\} \mapsto e : \tau}{C, \Gamma \mapsto \text{LAMBDA}(\langle x_1, x_2, \ldots x_n \rangle, e) : \alpha_1 \times \ldots\ldots \times \alpha_n \mapsto \tau}$$