MIT 6.035: Computer Language Engineering **Spring 2022**

Mini Quiz 9

github.com/6035/sp22

Name: _____

Kerberos username (omit @mit.edu): _____

Consider the grammar:

$$\begin{array}{rcl} E & \rightarrow & E + T \mid T \\ T & \rightarrow & T * F \mid F \\ F & \rightarrow & (E) \mid x \end{array}$$

What is in $I = \mathsf{Closure}(\{T \rightarrow T * \bullet F\})$?

What is in $\mathsf{Goto}(I, F)$?

Note: Fixed Point Algorithm for $\mathsf{Closure}(I)$

- $I \subseteq \mathsf{Closure}(I)$
- If $A \rightarrow \alpha \bullet B\beta \in \mathsf{Closure}(I)$ and $B \rightarrow \bullet\gamma$ is an item, then $B \rightarrow \bullet\gamma \in \mathsf{Closure}(I)$.

$$\mathsf{Goto}(I, X) = \mathsf{Closure}(\{A \rightarrow \alpha X \bullet \beta \mid A \rightarrow \alpha \bullet X\beta \in I\}$$