

Thursday, September 12

Name \_\_\_\_\_

Email \_\_\_\_\_

6.035 Fall 2019

Miniquiz #7

5 minutes

---

Consider the grammar:

$Start \rightarrow A$

$A \rightarrow CB$

$A \rightarrow C$

$B \rightarrow 1$

$B \rightarrow CB$

$C \rightarrow 01$

$C \rightarrow \epsilon$

1. Show the steps of the fixed point algorithm to determine whether each terminal derives  $\epsilon$ .
2. Show the rules for what is contained in the First set for each symbol (e.g. " $\text{First}(C) \subset \text{First}(A)$ ").
3. Perform the fixed point algorithm to determine  $\text{First}(A)$ ,  $\text{First}(B)$ , and  $\text{First}(C)$ .