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CSCI 350
Homework 3

1. In a language, each sentence is a string starting with a capital letter followed by two or more small letters and ending with three or more digits. Example sentences are Abc001, Zyxw9876 etc.

a) Write a BNF grammar for the language.

$\langle S' \rangle \rightarrow \langle C' \rangle \langle A' \rangle \langle D' \rangle$
 $\langle C' \rangle \rightarrow A|B|C|D|E|F \text{ ----- } X|Y|Z$
 $\langle A' \rangle \rightarrow \langle B' \rangle \langle B' \rangle \langle H' \rangle$
 $\langle H' \rangle \rightarrow \langle B' \rangle \langle H' \rangle | \epsilon$
 $\langle B' \rangle \rightarrow a|b|c|d|e|f|g \text{ ----- } x|y|z$
 $\langle D' \rangle \rightarrow \langle E' \rangle \langle E' \rangle \langle E' \rangle \langle F' \rangle$
 $\langle F' \rangle \rightarrow \langle E' \rangle \langle F' \rangle | \epsilon$
 $\langle E' \rangle \rightarrow 0|1|2|3|4|5|6|7|8|9$

Terminal = {A, B ----- x, y, z, a, b, c ----- x, y, z, 0, 1, 2, -----9}

Variables = {S', C', A', H', B', D', E', F'}