CSC 220--- Fall 2020
Homework #2 --- due by 11:59 pm on 10/26/2020

Instructions on how to submit your answers:

Only your first submission will be graded, log into D2L and upload your submission under homework#2.

If your answers are typed: you will upload your submission file in D2L. If you decided to write down your answers, please take a picture of each page put all pages into one folder and upload the entire folder (you can also use zip utility, zip the folder and then upload the entire folder).

Name:

1. Provide a grammar to generate $L = \{(11)^n \mid n \in N\}$.
2. Provide a grammar to generate strings that are only made of 1's, where A={0,1}.
3. Provide a grammar to generate strings that begin by at least a one, where A={0,1}.
4. Provide a grammar to generate strings that end by at least a one, where A={0,1}.
5. Give a recursive definition, where $n = 1,2,3, \dots$, $a_n = 10^n$.
6. Let S be the subset of set of ordered pairs of integers defined recursively by:

   Basis step: $(0,0) \in S$

   Recursive Step: if $(a,b) \in S$, then $(a,b+1) \in S, (a+1,b+1) \in S \; and \; (a+2,b+1) \in S$.

List the elements of S produced by the first two applications of the recursive definition.