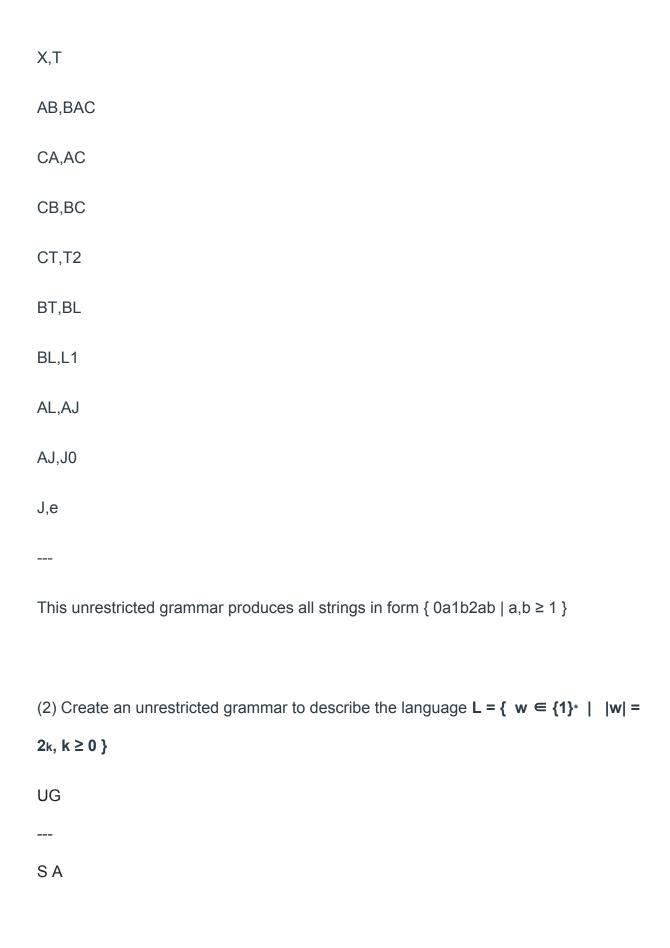
Jonny Hughes
Automata Theory
4-7-20
Homework # 16
(1) Create an unrestricted grammar to describe the language L = { 0 <sub>a</sub> 1 <sub>b</sub> 2 <sub>ab</sub>   a,b ≥ 1 }
For strings in this language, the number of 2's is equal to the product of the number of
0's and the number of 1's.
UG
<del></del>
SABCXLTJ
0 1 2
S
S,AS
S,X
X,BX



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1

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S

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S,A

A,11A

A,e

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This unrestricted grammar produces all strings in form{  $w \in \{1\}^* \mid |w| = 2k, k \ge 0$ }