HW4

Shane Drafahl

18 September ,2017

1. Define a context-free grammar for the language $L = \{\ 0^n1^m0^m1^n\}$

$P = \{\ S \rightarrow 1S0|0A1|\epsilon, A \rightarrow 0A1|\epsilon\}$
$G = (S, A, 1, 0, S, P)$

2. Define a context-free grammar for the language $L = \{\ a^nb^m : n \leq 3m\}$

$P = \{\ S \rightarrow Bb|\epsilon, B \rightarrow Cb|\epsilon, C \rightarrow Db|\epsilon, D \rightarrow Db|aA|\epsilon\}$
$G = (S, B, C, D, a, b, S, P)$