INT201 Decision, Computation and Language

Tutorial 6

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1. Consider language A with CFG $G = (V, \Sigma, R, S)$
   Variables $V = \{S, C, D\}$
   Terminals $\Sigma = \{a, b\}$
   Rules:
   $S \rightarrow CDa \mid CD$
   $C \rightarrow aD$
   $D \rightarrow Sb \mid b$

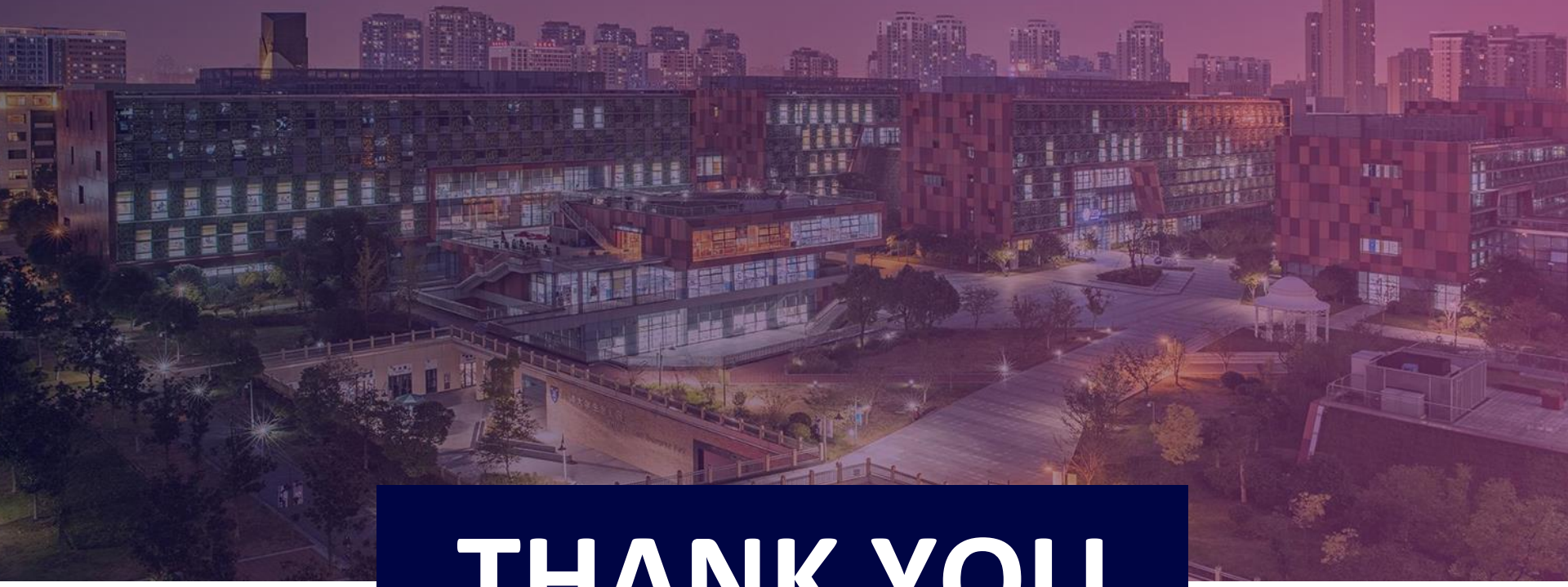
Derivation for string $s = ababbba$:

2. Give context-free grammars that generate the following languages

$$L = \{w \in \{0, 1\}^* \mid w \text{ contains at least three 1s } \}$$

3. Convert the following CFG into an equivalent CFG in Chomsky normal form

$$S \rightarrow BSB \mid B \mid \varepsilon$$
$$B \rightarrow 00 \mid \varepsilon$$



THANK YOU

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