

Admission No: 134338

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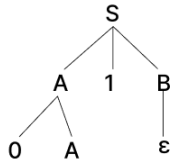
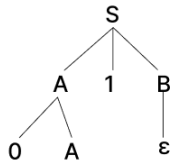
AUTOMATA ASSIGNMENT 2

Generated Strings:

- a) 01
- b) 1111
- c) 01000

Derivation of the strings from the grammar

a) 01

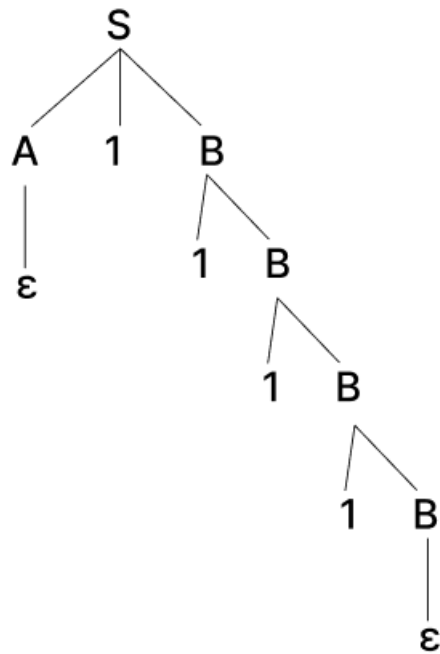
Leftmost derivation	Rightmost derivation
$S \longrightarrow A1B$ $\longrightarrow 0A1B$ $\longrightarrow 01B$ $\longrightarrow 01$	$S \longrightarrow A1B$ $\longrightarrow A1$ $\longrightarrow 0A1$ $\longrightarrow 01$
Leftmost parse tree	Rightmost Parse tree
	

b) 1111

Leftmost derivation

$S \longrightarrow A1B$
 $\longrightarrow 1B$
 $\longrightarrow 11B$
 $\longrightarrow 111B$
 $\longrightarrow 1111B$
 $\longrightarrow 1111$

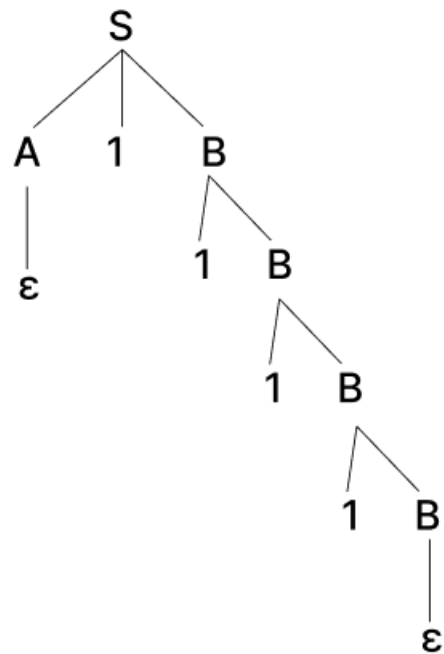
Leftmost parse tree



Rightmost derivation

$S \longrightarrow A1B$
 $\longrightarrow A11B$
 $\longrightarrow A111B$
 $\longrightarrow A1111B$
 $\longrightarrow A1111$
 $\longrightarrow 1111$

Rightmost Parse tree

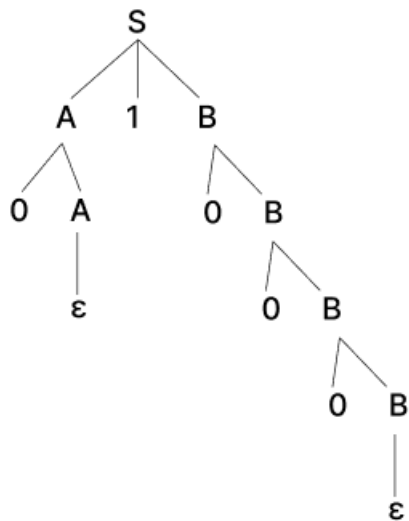


c) 01000

Leftmost derivation

$S \longrightarrow A1B$
 $\longrightarrow 0A1B$
 $\longrightarrow 01B$
 $\longrightarrow 010B$
 $\longrightarrow 0100B$
 $\longrightarrow 01000B$
 $\longrightarrow 01000$

Leftmost parse tree



Rightmost derivation

$S \longrightarrow A1B$
 $\longrightarrow A10B$
 $\longrightarrow A100B$
 $\longrightarrow A1000B$
 $\longrightarrow A1000$
 $\longrightarrow 0A1000$
 $\longrightarrow 01000$

Rightmost Parse tree

