

## Exercise 8 – Context-Free Grammars

Consider the following non-regular language:

$$L = \{0^i 1^j \mid i \neq j \text{ and } i, j \geq 0\}$$

- Obtain a CFG that defines the language above.
- Show the leftmost derivation considering the input string 00111 and draw the corresponding syntactic tree (also known as parse tree).