

## ***Homework #7 due December 26, 2023 before recitation***

### **Question 1**

A CFG is called *right linear* if **all** productions are of the form  $A \rightarrow a B$  or  $A \rightarrow e$  and called *left linear* if **all** productions are of the form  $A \rightarrow B a$  or  $A \rightarrow e$  where  $A, B \in V$  and  $a \in T$  and  $e$  is the empty string.

Show that both *right linear* and *left linear* grammars generate *regular languages*. Specify finite state machines corresponding respectively to right and left linear grammars.

***Main Text: Exercise 7.1.3, 7.1.4, 7.2.1 (b), (c), 7.4.3(b), (c)***