1. Using the construction technique of Theorem 3.3 construct a dfa that accepts the language generated by the right linear grammar whose productions are

\[
S \rightarrow abA \\
A \rightarrow baB \\
B \rightarrow aA \mid bb
\]

2. Given the regular expression \( aa^*(a+b) +a)^* \)
   
   a. Construct a dfa which accepts the language for the above regular expression
   
   b. Using the construction given in Theorem 3.4, construct a right-linear grammar from the dfa for this language.

3. Given the language \( L((aab*ab)^*) \)
   
   a. Construct a right-linear grammar for this language. You may use the standard construction or do this heuristically
   
   b. Construct a left-linear grammar for this language. Do this heuristically.