Automata Theory: Solutions 5

Problem 1
Draw an NFA that accepts the language defined by the following grammar:

\[
S \rightarrow aaA \mid \lambda \\
A \rightarrow bbB \mid ccC \\
B \rightarrow bB \mid bC \\
C \rightarrow cC \mid S
\]

Problem 2
Give a right-linear grammar and left-linear grammar for the following language:

\[
\{b^nab^m : n \geq 2, m \geq 2\}
\]

Right-linear grammar:

\[
S \rightarrow bbA \\
A \rightarrow bA \mid abbB \\
B \rightarrow bB \mid a
\]

Left-linear grammar:

\[
S \rightarrow Aa \\
A \rightarrow Ab \mid Babb \\
B \rightarrow Bb \mid bb
\]