Assignment 6.1 LR(1)-Parser

Consider the following grammar $G$ with fresh start symbol $S'$:

\[
S' \rightarrow A^0 \\
A \rightarrow ABa^0 | c^1 \\
B \rightarrow b^0 | e^1
\]

1. Draw the canonical $LR(1)$-automaton $LR(G, 1)$.

2. Give the action table.

3. Give all computation steps in order to parse an example word $w$ produced by the grammar, i.e., give all intermediate steps $(q_0, w) \vdash^* (f, e)$.

4. Consider the grammar $G$ together with the production $A \rightarrow B$.
   Is the resulting grammar $LR(1)$?