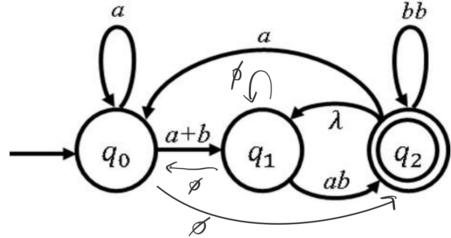
## Assignment 6

## **Automata & Theory of Computation**

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1. Consider the following generalized transition graph.



(1) Find an equivalent generalized transition graph with only two states.

$$\begin{array}{c}
\stackrel{\wedge}{a^{+}} (a+b(ab)^{+} (bb)^{+} \stackrel{\wedge}{a^{+}})^{+} \\
\stackrel{\wedge}{\rightarrow} (bb)^{+} (ab)^{+} \stackrel{\wedge}{a^{+}})^{+} \\
\stackrel{\wedge}{\rightarrow} (a+b)(ab)^{+} (ab)^{+} \stackrel{\wedge}{a^{+}})^{+}
\end{array}$$

$$\begin{array}{c}
\stackrel{\wedge}{a^{+}} (a+b)(ab)^{+} (ab)^{+} \stackrel{\wedge}{a^{+}})^{+} \\
\stackrel{\wedge}{\rightarrow} (a+b)(ab)^{+} \stackrel{\wedge}{a^{+}})^{+}
\end{array}$$

(2) What is the language accepted by this graph?