Quiz 3 Solution
1. Write a regular expression that specifies the language \{x \mid x \text{ is a string of 0s and 1s that contains an odd number of 0s}\}. The shortest string in the language is 0.

\[1^*0(1^*01^*0)^*1^*\]
2. Use the RE to NFA algorithm to create an NFA that accepts the language specified by the regular expression \((0|1)^*11\). Follow the algorithm. Do not simplify the NFA.
NFA to DFA

Diagram of an NFA transitioning to a DFA, with states S0 to S9 and transitions labeled with 0, 1, and ε.