1. Describe the languages denoted by the following regular expressions
   a) 0 (0|1)*0
   b) ((ε|0)*1)*
   c) (0|1)*0(0|1)(0|1)
   d) (00|11)*((01|10)(00|11)*(01|10)(00|11)*)*

2. Write regular definitions for the following languages
   a) All strings of letters that contain the five vowels in order
   b) Comments consisting of a string surrounded by /* and */ without an intervening */
      unless it appears in side the quotes “” and “”.

3. Construct regular expression corresponding to the following finite automata
   ![Finite Automata](image)

4. Convert the following NFSMs to DFSMs
   a) ![NFSM](image)
   b) ![NFSM](image)

5. Convert the following regular expression into a DFSM. Proceed by converting first to a
   NFSM. Then, convert the NFSM to a DFSM. And, finally, minimize the number of states in
   the DFSM.
   
   $10 \mid (0 \mid 11) \ 0^*1$

6. Modify algorithm 3.1 of The Dragon Book (Transparency 32 in Lesson 5) to find the longest
   prefix of the input that is accepted by the DFA.