For each of the following regular languages over the alphabet \{0, 1\}, (1) Draw a DFA that accepts the language, and (2) Explain what each state in your diagram represents and use this to justify the correctness of your DFA design.

a) \(L_a = \{ w \mid w \text{ starts with 11 or ends with 00} \}\)

b) \(L_b = \{ w \mid w\text{'s decimal equivalent is divisible by 6} \}\)

e) \(L_c = \{ w \mid w\text{ doesn’t contain the substring 110} \}\)