

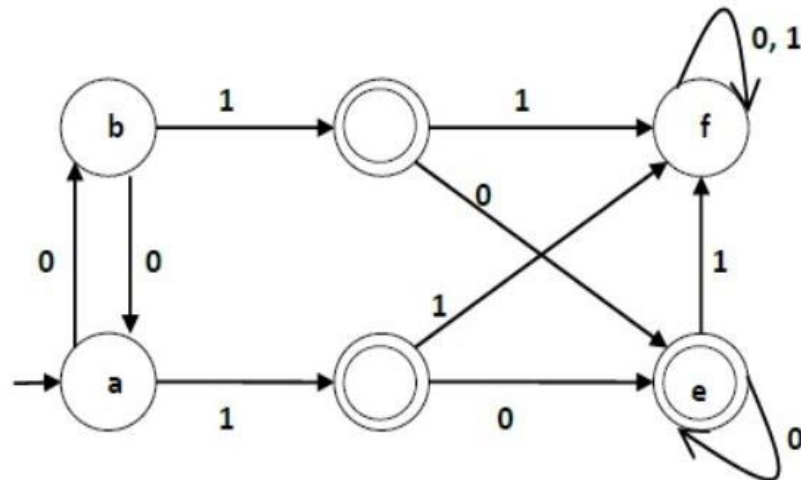
01. Develop a regular expression for the following language over the alphabet $P = \{a, b\}$ such that:

- It accepts all strings in which the letter b is never tripled. This means that no word contains the substring bbb .
- It accepts all strings all words in which a is tripled or b is tripled, but not both. This means each word contains the substring aaa or the substring bbb but not both.

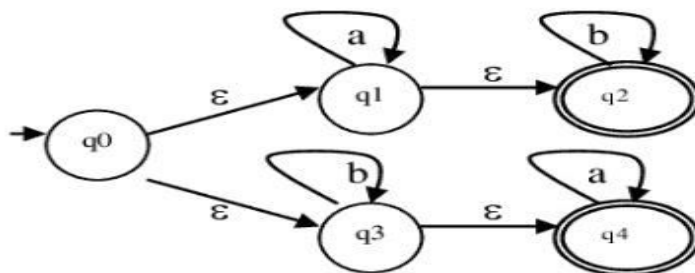
02. Consider the Language L of strings, defined over $\Sigma = \{a, b\}$, construct a GTG which:

- accepts all strings without double b .
- accepts all strings beginning and ending with the same letters.

03. Minimize the following DFA:



04. Convert the following epsilon NFA to DFA:



05. Perform union and concatenation of the following FAs:

