Tutorial 1

For the following problem statements find Regular Expression and convert it into NFA also convert NFA to DFA.

1. Obtain a regular expression representing strings of a's and b's having length 2.
2. Obtain a regular expression to accept strings of a's and b's of length <= 2.
3. Obtain a regular expression to accept strings of a's and b's of length <= 10.
4. Obtain a regular expression representing strings of a's and b's having even length.
5. Obtain a regular expression representing strings of a's and b's having odd length.
6. Obtain a regular expression such that L(R) = {w | w∈ {0, 1}* with at least three consecutive 0's}.
7. Obtain a regular expression to accept strings of 0's and 1's having no two consecutive zeros.
8. Obtain a regular expression to accept strings of a's and b's starting with 'a' and ending with 'b'.
9. Obtain a regular expression to accept strings of a's and b's whose second symbol from the right end is a.
10. Obtain a regular expression representing strings of a's and b's whose tenth symbol from the right end is a.