

## Challenge Activity 3 – NFAs

Considering that the conversion of an NFA to a DFA always results in a DFA with a number of states less or equal  $2^N$  (being  $N$  the number of the states of the NFA).

- a) Show two examples of NFAs with 2 and 3 states that, using the subset construction, result in DFAs with 4 and 8 states, respectively;
- b) Comment the following sentence: “It is always better to implement DFAs as the equivalent NFAs always need very complex processing and do not provide benefits in terms of implementation.”