Assignment-3

Automata and compiler design lab

1) Find the nfa's for the following languages on Σ={a,b}
    a) L={strings start with 'ab'}
    b) L={contain 'ab' as substring}
    c) L={string end with 'ab'}
2) Design an nfa with no more than five states for set $\{abab^n : n\geq 0\} \cup \{aba^n : n\geq 0\}$
3) Contruct an nfa with three states that accepts the languages $\{ab,abc\}^*$
4) Find an nfa with four states for $L=\{a^n : n\geq 0\} \cup \{b^n a : n\geq 1\}$
5) Find an nfa without λ-transitions and with a single final state that accepts the set $\{a\} \cup \{b^n a : n\geq 1\}$
6) Find an nfa with three states that accept the language $L=\{a^n : n\geq 1\} \cup \{b^m a^k : m\geq 0, k\geq 0\}$
7) Convert the following nfa's into dfa's over languages on Σ={a,b}
    a) L={strings start with 'a'}
    b) L={strings end with 'a'}
    c) All strings in which second symbol from RHS is 'a'
    d) All strings in which third symbol from RHS is 'a'