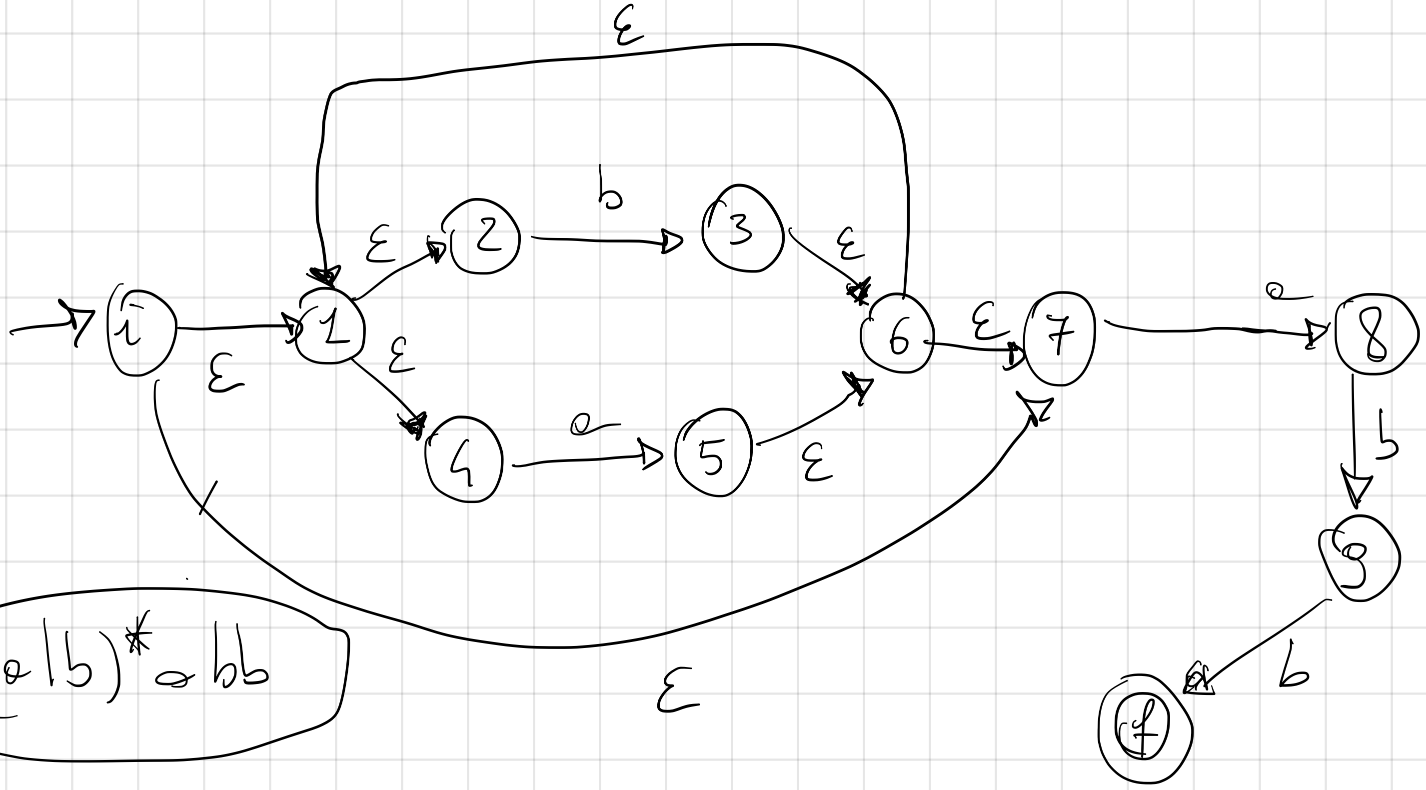
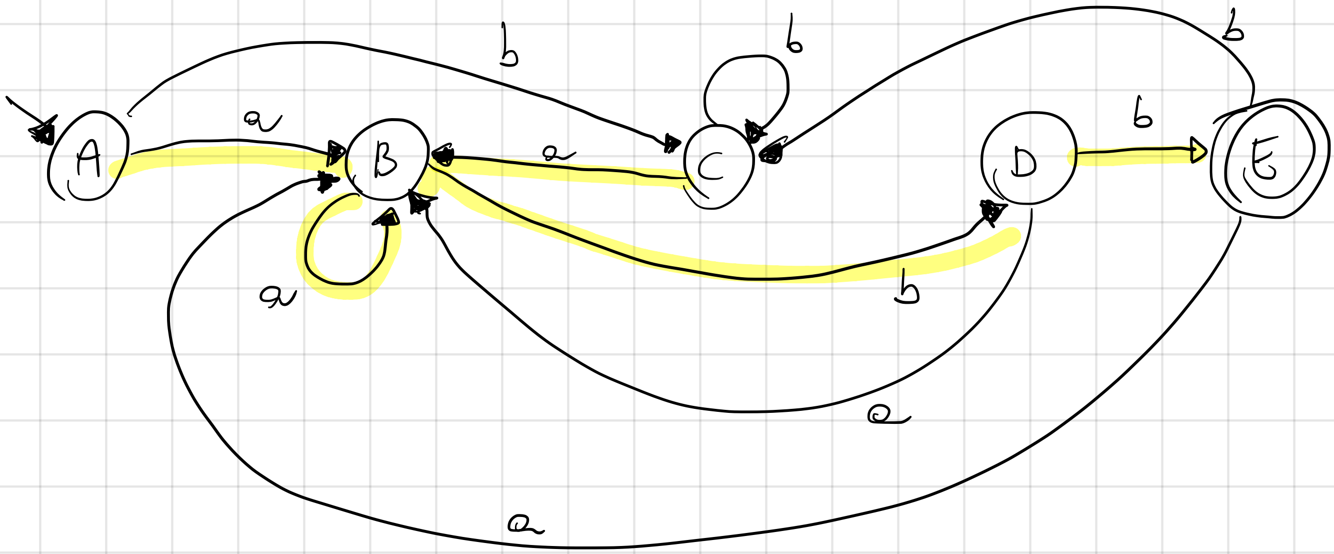


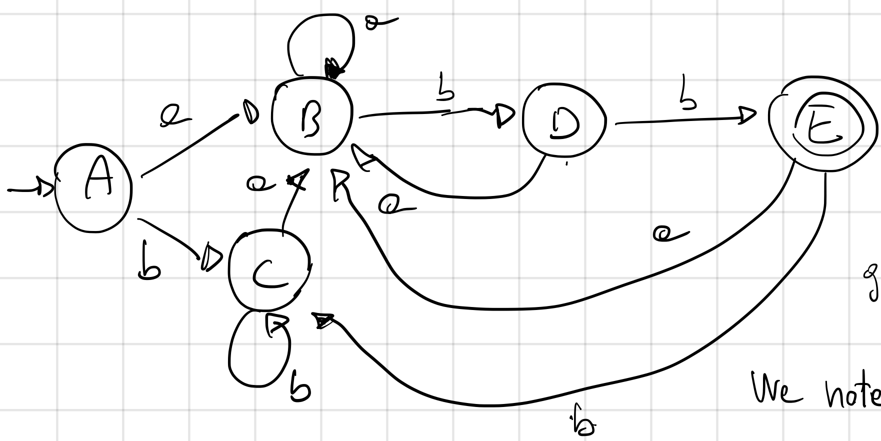
$(a|b)^*abb$

S \ ε	a	b
ε-clos$(\{i\}) = \{i, 1, 2, 4, 7\} = A$	ε-closure(move$(\{i, 1, 2, 4, 7\}, a)) =$ ε-clos$(\{5, 8\}) = \{5, 6, 7, 1, 2, 4, 8\} = B$	..., ε-clos$(\{3\}) = \{3, 6, 7, 1, 2, 4\} = C$
$B = \{5, 6, 7, 1, 2, 4, 8\}$	B	ε-cl$(\{3, 9\}) = \{3, 6, 7, 1, 2, 4, 9\} = D$
$C = \{3, 6, 7, 1, 2, 4\}$	B	C
$D = \{3, 6, 7, 1, 2, 4, 9\}$	B	ε-cl$(\{3, f\}) = \{3, 6, 7, 1, 2, 4, f\} = E$
$E = \{3, 6, 7, 1, 2, 4, f\} \in F_D$	B	C



ababb $\qquad A \xrightarrow{a} B \xrightarrow{b} D \xrightarrow{a} B \xrightarrow{b} D \xrightarrow{b} E$

if $|N| = n$ then the powerset of N, denoted by 2^N or $Pow(N)$, has 2^n elements.



$\Pi^{(1)} = \{\{E\}, \{A, B, C, D\}\}$

We try to refine the group $\{A, B, C, D\}$ into subgroups.

We note that $D \xrightarrow{b} \{E\}$

$\{A, B, C\} \xrightarrow{b} \{A, B, C, D\}$

Thus, D can be put outside the group: $\Pi^{(2)} = \{\{E\}, \{D\}, \{A, B, C\}\}$

We note that $B \xrightarrow{b} \{D\}$

$\{A, C\} \xrightarrow{b} \{A, B, C\}$ Thus $\Pi^{(3)} = \{\{E\}, \{D\}, \{B\}, \{A, C\}\}$

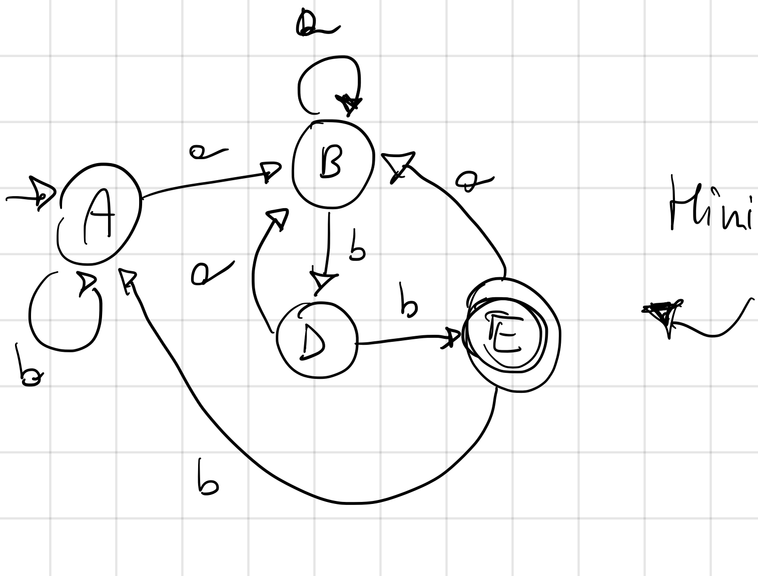
Finally $A \xrightarrow{a} \{B\}$ $\quad A \xrightarrow{b} \{A, C\}$ Thus, $\{A, C\}$ cannot

$C \xrightarrow{a} \{B\}$ $\quad C \xrightarrow{b} \{A, C\}$

be decomposed further.

This means that $\Pi^{(4)} = \Pi^{(3)} = \{\{E\}, \{D\}, \{B\}, \{A, C\}\}$,

which is the finest partition possible. Let us draw the resulting minimal DFA by choosing A as the representative state of the group $\{A, C\}$:



Minimal DFA for $(a|b)^* abb$