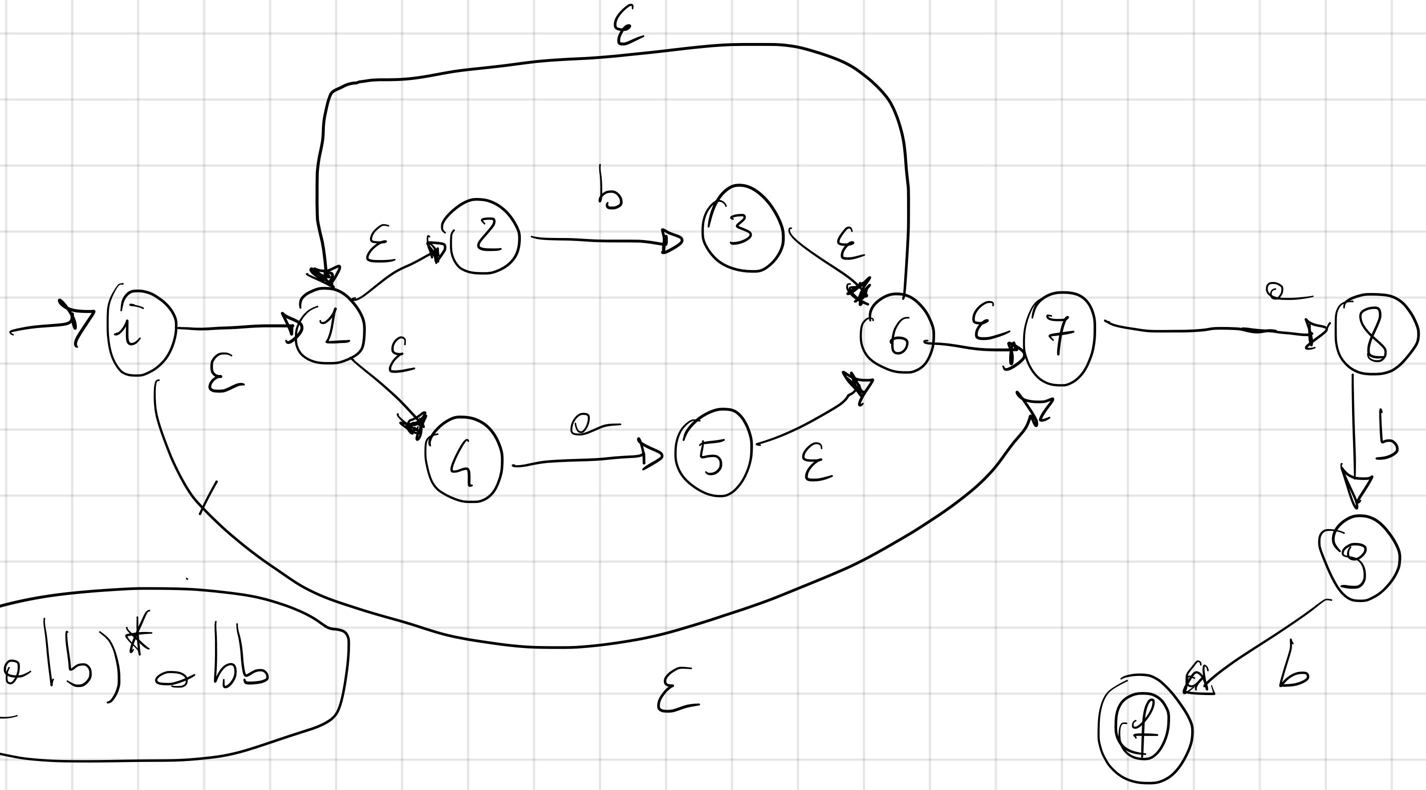
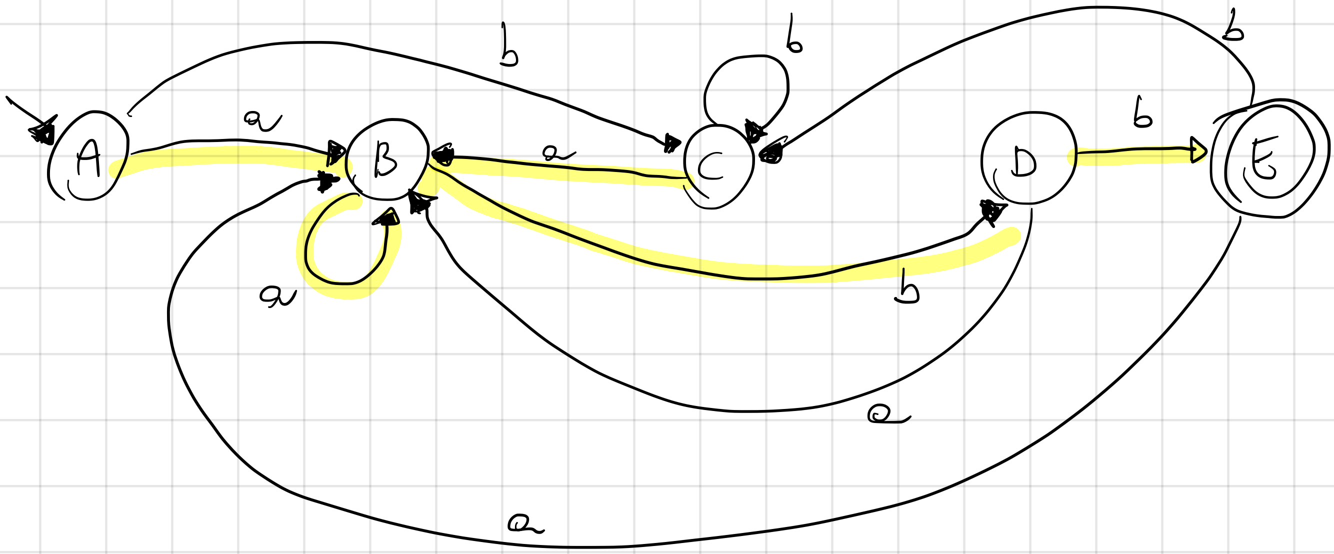


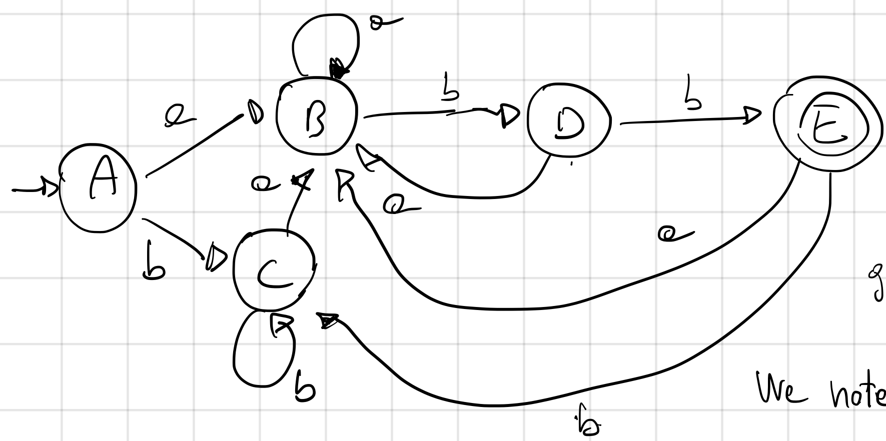
$(a|b)^*abb$

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 $\quad A \xrightarrow{a} B \xrightarrow{b} D \xrightarrow{a} B \xrightarrow{b} D \xrightarrow{b} E$

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 $D \xrightarrow{d} \{E\}$

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

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

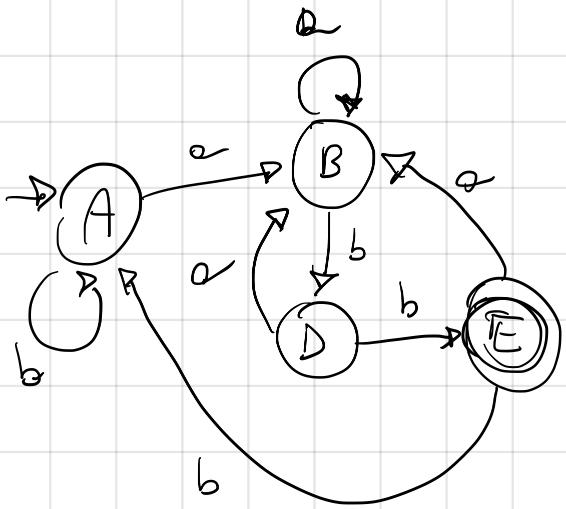
We note that $B \xrightarrow{d} \{D\}$

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

Finally $A \xrightarrow{a} \{A, C\}$ $A \xrightarrow{b} \{A, C\}$ Thus, $\{A, C\}$ cannot
$C \xrightarrow{a} \{A, C\}$ $C \xrightarrow{b} \{A, C\}$
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 $(a|b)^* abb$