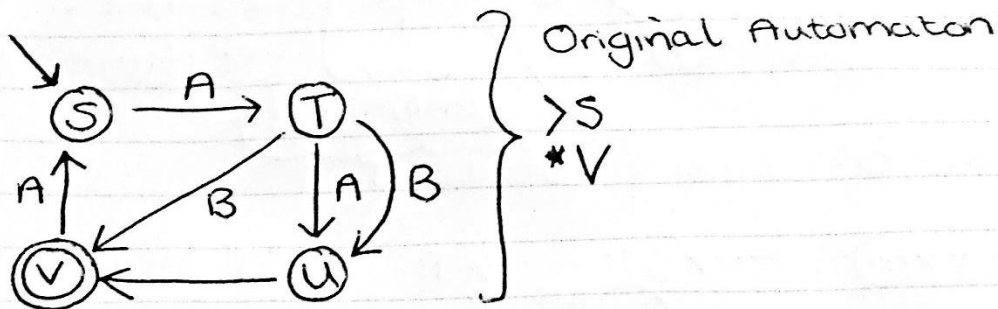


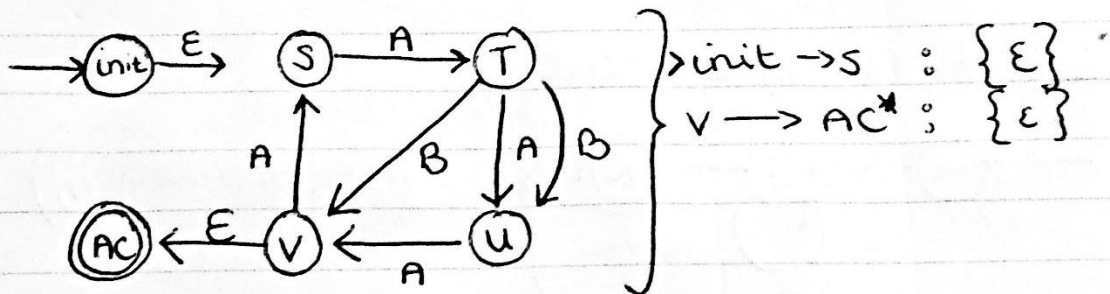
5.

NFA to Reg' Exp' :

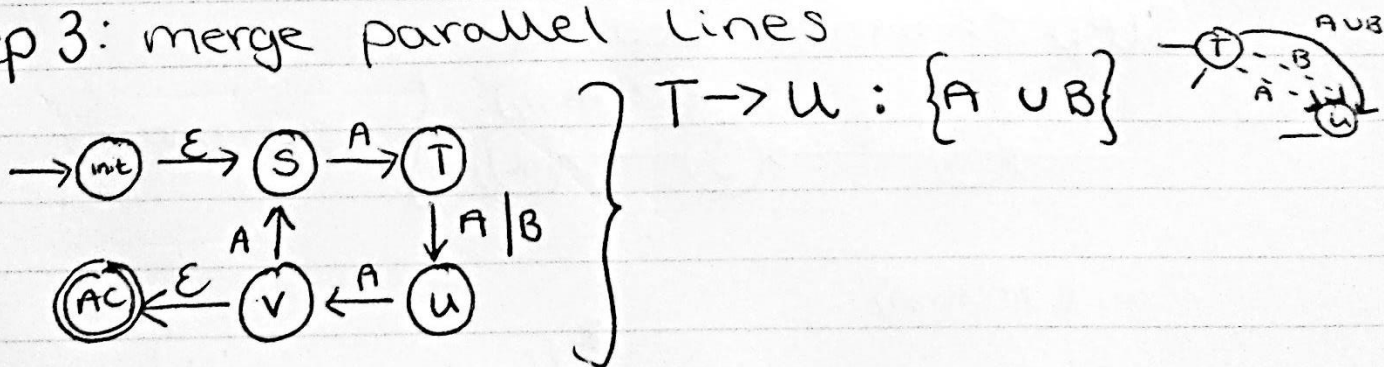
Step 1:



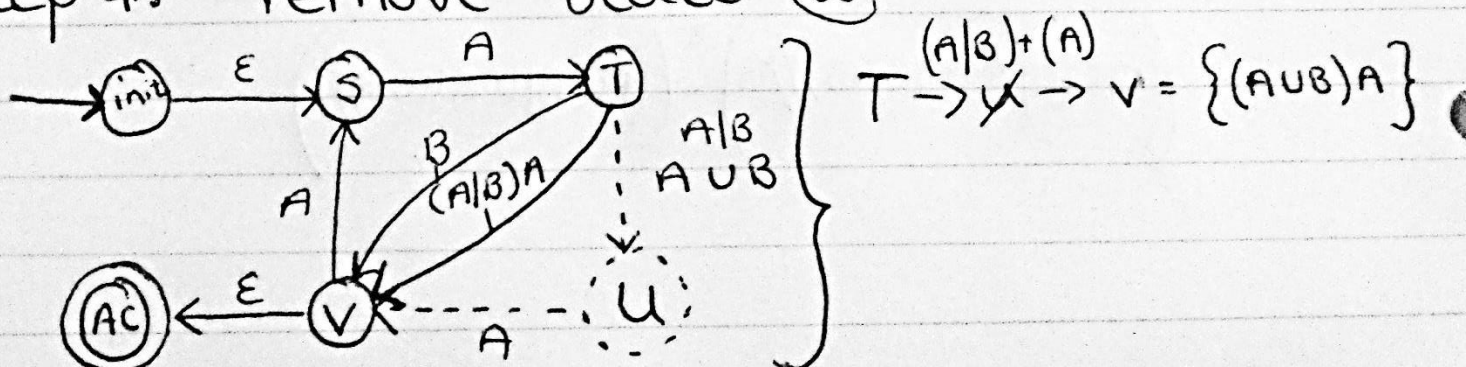
\Rightarrow Step 2: normalise ^[init] (start & ^[ac] finish) GNFA



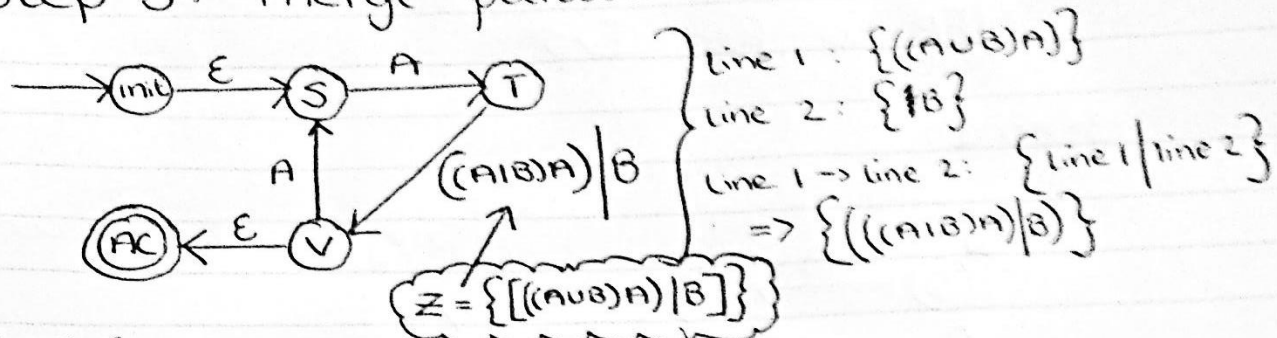
Step 3: merge parallel lines



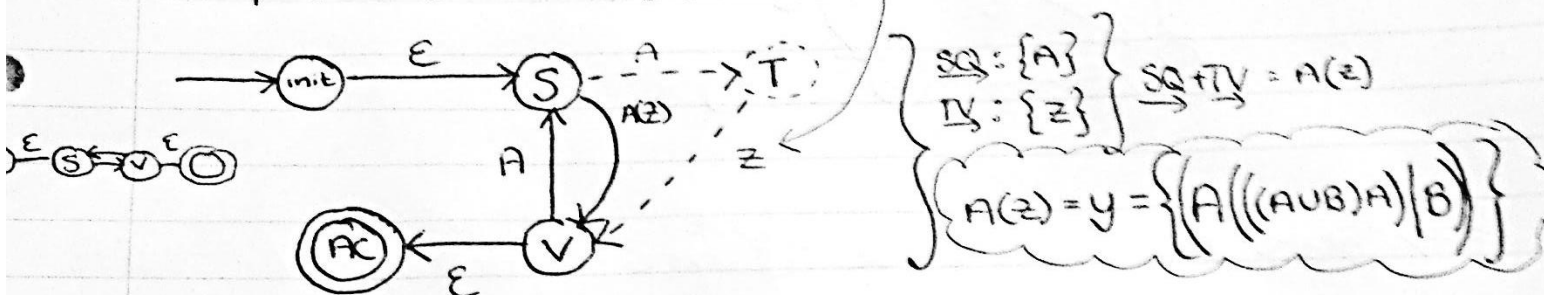
Step 4: remove state (U)



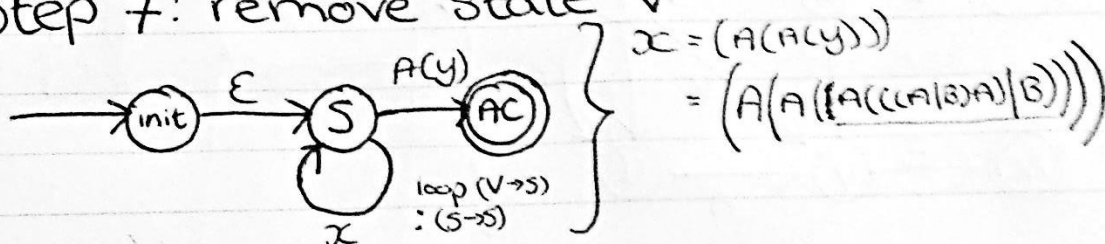
Step 5: merge parallel lines



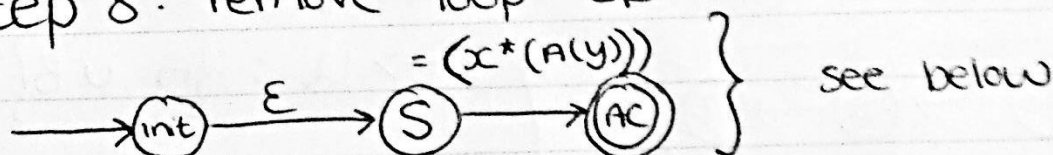
Step 6: remove state T



Step 7: remove state V



Step 8: remove loop



$$\underbrace{\left(A(A(B \mid ((A \cup B)A))) \right)}_x \quad \underbrace{\left(A(B \mid ((A \cup B)A)) \right)}_{A(y)}$$

$$\left\{ \left(A(A(B \cup ((A \cup B)A))) \right) * \left(A(B \cup ((A \cup B)A)) \right) \right\}$$