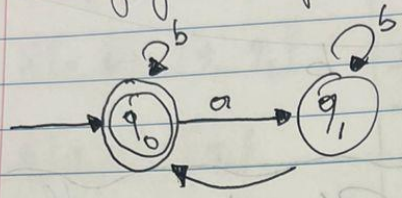
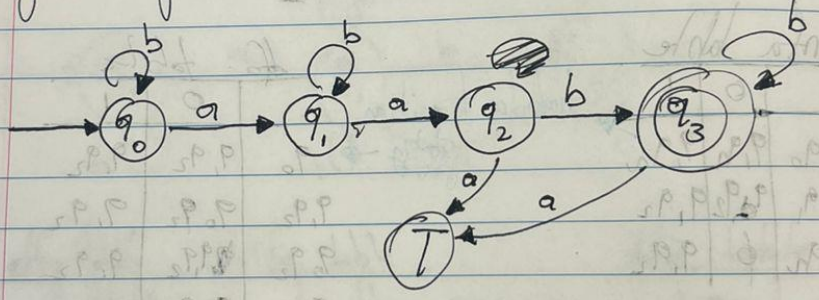
February 11th 2024
Detroit - Michigan

Assignment II: construct dfa's

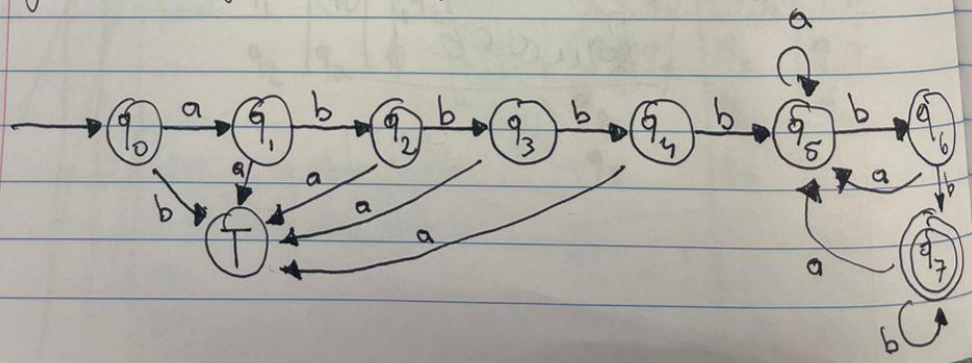
I. For $\Sigma = \{a, b\}$, construct dfa's that accept the sets consisting of all strings with an even number of a's.



II. For $\Sigma = \{a, b\}$, construct dfa's that accept the sets consisting of all strings with at least one b and exactly two a's.

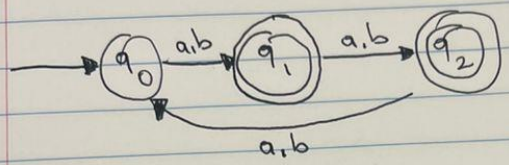


III. Give dfa's for the languages $L = \{ab^4wb^2 : w \in \{a, b\}^*\}$



IV. Find dfa's for the following languages on $\Sigma = \{a, b\}$.

$L = \{w : |w| \bmod 3 \neq 0\}$



V. Find dfa's for the following languages on $\{a, b\}$.

$L = \{w :$ every run of a's has length either two or three$\}$