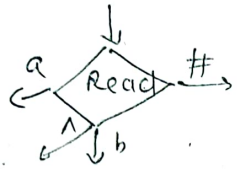
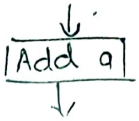
Post Machines

Def^n - PM is collection of 5 things:

1) Alphabet Σ of i/p letters, $\Sigma = \{a\ b\}$ generally. Plus special symbol #.
2) A linear storage loc^n, store or queue, which initially contains i/p str. To read a i/p letter, leftmost char. gets removed. A char. can be added at right end.
   Alphabet Γ is store alphabet.
3) Read states, PMs are deterministic, $\therefore$ no 2 edges have same label.



4) Add states, 

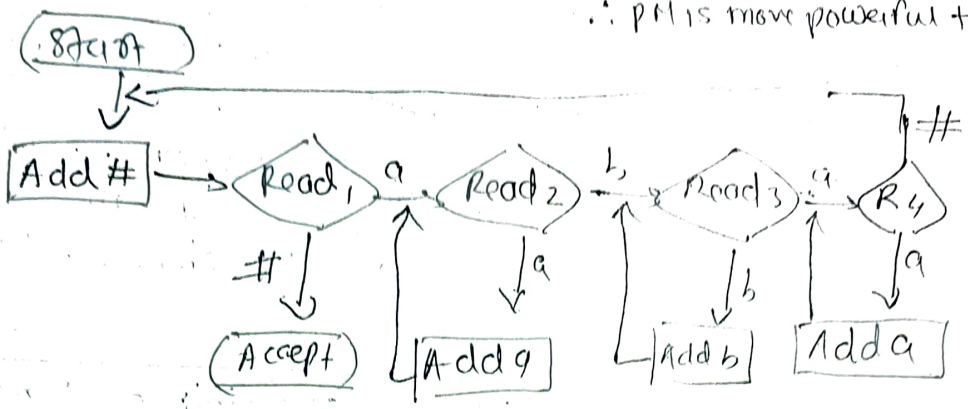
b, # etc.

5) Unenterable start state, some halt states Accept, Reject.

The moment we accept i/p str., store could contain anything.
PM is a lang. recognizer or acceptor.

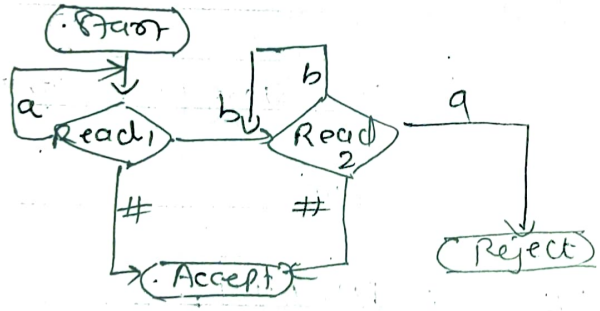
In case of nondeterministic PM, NPM,
NPM = PM, as a lang-acceptors.

ex. lang. $\{a^n b^n a^n\}$. this is non-CFL, No CFG & No PDA for this.
∴ PM is more powerful than PDA.

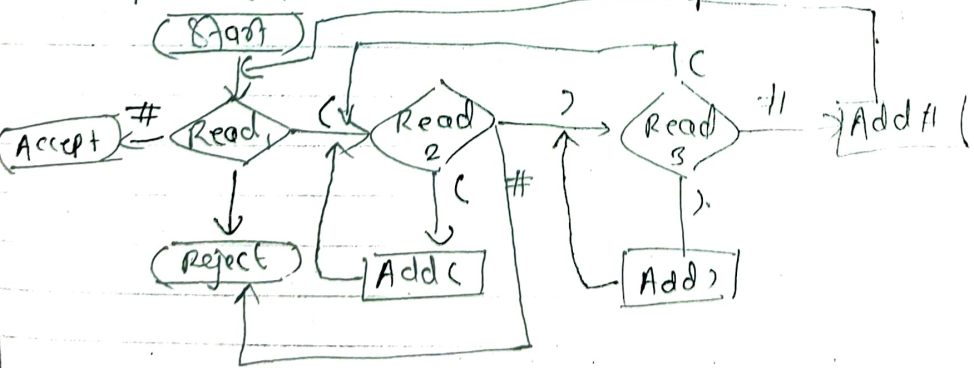


Th^m - Any lang. that can be accepted by a PM (TM) can be accepted by some TM (PM).

ex. lang. $\{a^n b^m / n \geq 0, m \geq 0\}$



ex. check well-formedness of parenthesis



similar to $a^n b^n$.

ex. Palindrome