Assignment 1 (IT3202-ACD)

(1) Differentiate DPDA & NPDA with an example.

(2) Design PDA for the following

(a) $L = wcw^R$ (b) $L = ww^R$

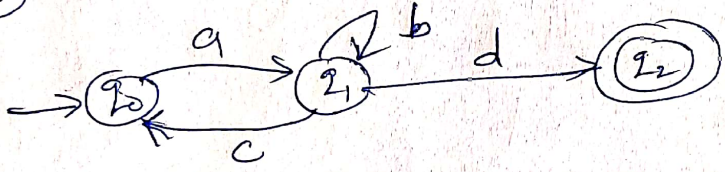
where $w \in (a,b)^*$ & w^R is reverse of w

(3) Design a minimal DFA that accepts all string over $\Sigma = \{a, b\}$ such that every string accepted must contain be like

no. of a = $0 \pmod 2$ || no. of b = $0 \pmod 2$

(4) Design a DFA for language $L = \{(ab)^n : n \geq 0\}$

(5) Convert following FA to equivalent R.E.



(6) Write CFG for the following language

$L = \{ww^R \mid w \in (a+b)^*\}$

(7) Write a R.E. for the following Language

$L = \{a^n b^m \mid n \geq 4, m \leq 3\}$

(8) Design a DFA that accepts all strings over $\Sigma = \{a, b\}$ such that for every accepted string, 2nd symbol from right end is always 'a'.

Submission Date : 22/04/2024 till 5 pm
(Deadline)