ToC Assignment 3

You will be given with 4 strings, viz., s1, s2, s3 and s4. **You will receive these strings through email**.

(1) For the following DTM show sequence of ids over input **(a)** s1 and **(b)** s2

Start state is q_0 and the set of final states is ϕ.

State	Symbol 0	1	B
q_0	(q_1, B, R)	(q_5, B, R)	–
q_1	$(q_1, 0, R)$	$(q_2, 1, R)$	–
q_2	$(q_3, 1, L)$	$(q_2, 1, R)$	(q_4, B, L)
q_3	$(q_3, 0, L)$	$(q_3, 1, L)$	(q_0, B, R)
q_4	$(q_4, 0, L)$	(q_4, B, L)	$(q_6, 0, R)$
q_5	(q_5, B, R)	(q_5, B, R)	(q_6, B, R)
q_6	–	–	–

(2) For the following NTM show computation tree (each node of this tree should be an id) for input strings **(c)** s3 and **(d)** s4.

NTM = $(\{q_0, q_1, q_2\}, \{0, 1\}, \{0, 1, B\}, \delta, q_0, B, \{q_2\})$

δ	0	1	B
q_0	$\{(q_0, 1, R)\}$	$\{(q_1, 0, R)\}$	$\emptyset$
q_1	$\{(q_1, 0, R),\ (q_0, 0, L)\}$	$\{(q_1, 1, R),\ (q_0, 1, L)\}$	$\{(q_2, B, R)\}$
q_2	$\emptyset$	$\emptyset$	$\emptyset$

Guidelines:

Your answer can be utmost 2 pages (submit a single pdf file).

Clearly write your roll number , name and date.

Deadline: 11 th (Sat) 5 pm.