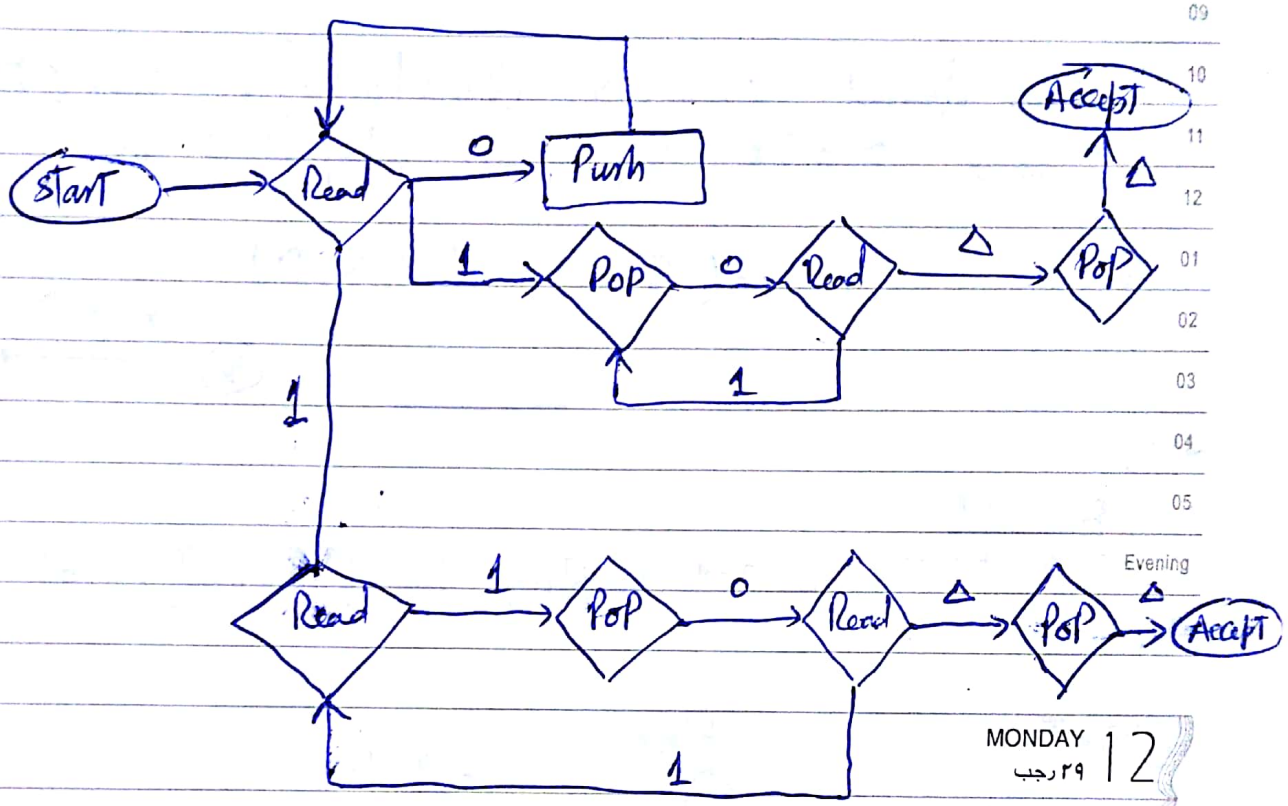
JULY

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

رجب ١٤٣١

JULY 2010



MONDAY 12 رجب ٢٩

TUESDAY 13 رجب ٣٠

H.W PDA if possible $0^n1^n0^n$

Defn of Turing Machine

A turing machine (TM) is a 5-Tupple $T = \{Q, \Sigma, \Gamma, q_0, \delta\}$, where

Q is a finite set of states, assumed not to Contain h_a or h_r

Σ and Γ are finite set (input and tape alphabets)

q_0, the initial state

$\delta: Q \times (\Gamma \cup \{\Delta\}) \to (Q \cup \{h_a, h_r\}) \times (\Gamma \cup \{\Delta\}) \times \{R, L, S\}$ is a partial

شعبان ۱۴۳۱

JULY 2010

M	T	W	T	F	S	S
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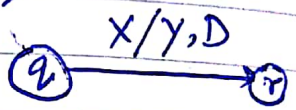
26	27	28	29	30	31	

functions.

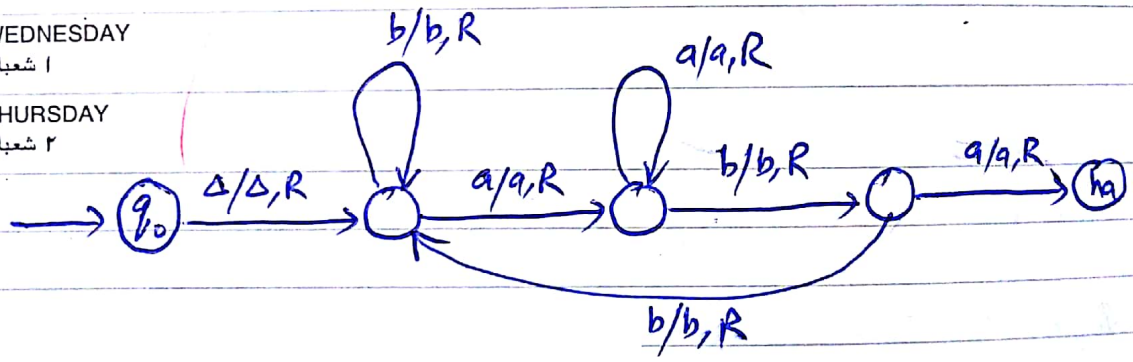
for element $q \in Q$, $r \in Q \cup \{h_a, h_r\}$, $X, Y \in \Gamma \cup \{\Delta\}$ and $D \in \{R, L, S\}$, we interpret it as

$$\delta(q, X) = (r, Y, D)$$



Example

A TM accepting $\{a,b\}^*\{aba\}\{a,b\}^*$



14 WEDNESDAY ۱ شعبان

15 THURSDAY ۲ شعبان

08 09 10 11 12 01 02 03 04 05 Evenin

Homework:

1. A Turing machine accepting $\{xx \mid x \in \{a, b\}^*\}$.
   See Figure 7.5 in book.
2. A Turing machine accepting $\{a^i\, b\, a^j \mid 0 \le i < j\}$.
   See Figure 7.8 in book
3. A Turing machine computing the reverse of a given string.
   See Figure 7.11 in book
4. A Turing machine to copy strings.
   See Figure 7.19 in book.

Example: A turing machine for Palindrome