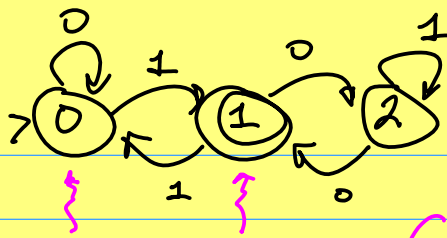


Quiz 3 Part 2:

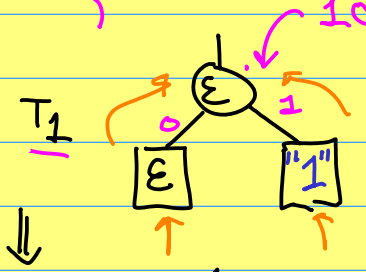
Angkin's L^* :



DFA
 M

1. $MCQ(\epsilon) \rightarrow 0$

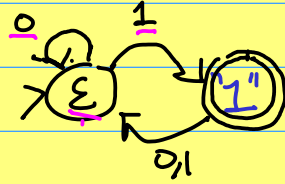
2. $EQ(\hat{N}_0) \rightarrow "1"$



\Downarrow

$sift(T_1, \epsilon, 0) = \epsilon$
 $sift(T_1, \epsilon, 1) = 1$
 $sift(T_1, 1, 0) = \epsilon$
 $sift(T_1, 1, 1) = \epsilon$

3. $EQ(\hat{N}_1) \rightarrow 100$



prefixes of w :

$\epsilon: \begin{cases} s_0 = sift(T_1, \epsilon) = \epsilon \\ \hat{s}_0 = \hat{M}_1(\epsilon) = \epsilon \end{cases}$

$1: \begin{cases} s_1 = sift(T_1, 1) = 1 \\ \hat{s}_1 = \hat{M}_1(1) = 1 \end{cases}$

$10: \begin{cases} s_2 = sift(T_1, 10) = \epsilon \\ \hat{s}_2 = \hat{M}_1(10) = \epsilon \end{cases}$

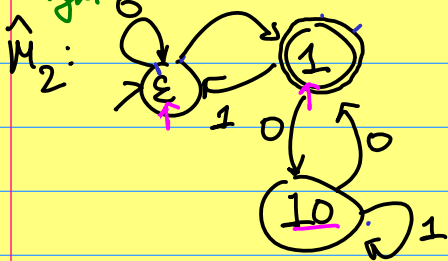
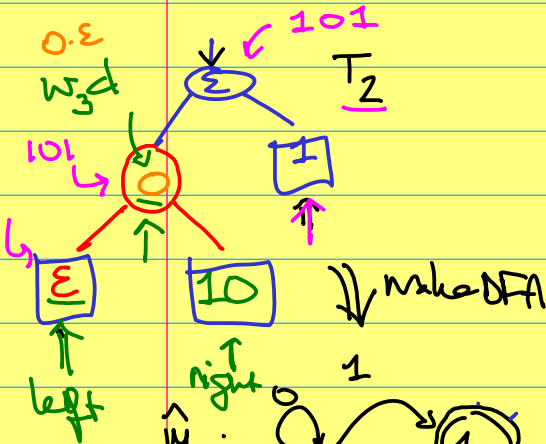
$100: \begin{cases} s_3 = sift(T_1, 100) = 1 \\ \hat{s}_3 = \hat{M}_1(100) = \epsilon \end{cases}$

$w_1 w_2 \dots w_j \dots w_n$

replace \hat{s}_{j-1} with internal node with leaves \hat{s}_{j-1} and $w_j \dots w_{j-1}$. The new internal node has label

$w_j d$ where

$d = \text{dist. of } s_j \text{ and } \hat{s}_j$



4. $EQ(\hat{M}_2) \rightarrow \text{YES}$

$sift(T_2, 0) = \epsilon$
 $sift(T_2, 1) = 1$
 $sift(T_2, 10) = 10$
 $sift(T_2, 11) = \epsilon$
 $sift(T_2, 100) = 1$
 $sift(T_2, 101) = 10$

