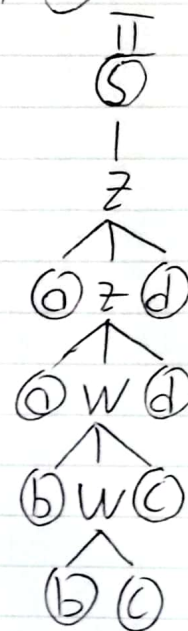
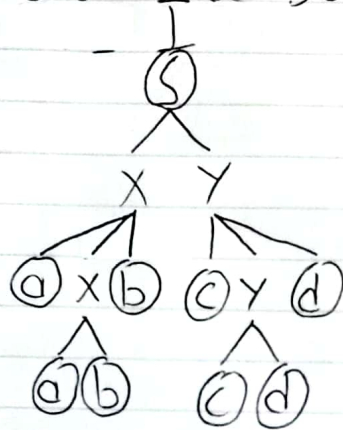


Yohanes Dinnar Pratama  
 All. 2021.13254 - All. 442U

# Tugas Otomata Setelah U1S

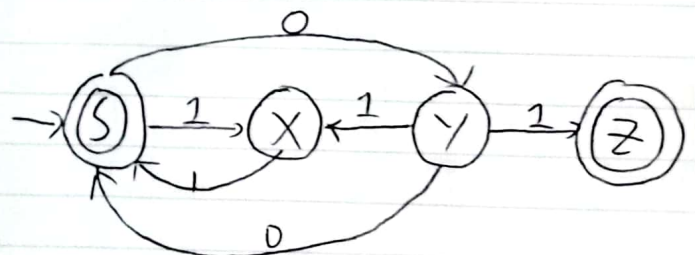
1.  $S \rightarrow xy | z$   
 $X \rightarrow aXb | ab$   
 $Y \rightarrow cYd | cd$   
 $Z \rightarrow aZd | aWd$   
 $W \rightarrow bWc | bc$



String ambigu

2.  $S \rightarrow 1X | 0Y | \epsilon$   
 $X \rightarrow 0X | 1S$   
 $Y \rightarrow 1X | 0S | 1$   
 $V = \{S, X, Y\}$   
 $T = \{0, 1\}$   
 $S: 1$

	0	1
S	{Y}	{X}
X	{X}	{S}
Y	{S}	{X, Z}
Z	{ }	{ }



3.  $S \rightarrow XY$   
 $X \rightarrow aX | abY | aZa$   
 $Y \rightarrow bX | YY | \epsilon$   
 $Z \rightarrow \epsilon$   
 $W \rightarrow dY | YZY$

- I. Menghilangkan  $Z \rightarrow \epsilon$   
 $S \rightarrow XY$   
 $X \rightarrow aX | abY | aa$   
 $Y \rightarrow bX | YY | \epsilon$   
 $W \rightarrow dY | YY$

- II. Menghilangkan  $Y \rightarrow \epsilon$

- $S \rightarrow X | xY$   
 $X \rightarrow ax | ab | abY | aa$   
 $Y \rightarrow bx | YY$   
 $W \rightarrow d | dY | YY$

- III. Menghilangkan unit

- $S \rightarrow ax | ab | opY | aa | xy$   
 $X \rightarrow ax | ab | abY | aa$   
 $Y \rightarrow bx | YY$   
 $W \rightarrow d | dY | bx | YY$

- IV. Menghilangkan useless

- $S \rightarrow ax | ab | abY | aa | XY$   
 $X \rightarrow ax | ab | abY | aa$   
 $Y \rightarrow bx | YY$

No.

Date

4. mod 4.  $n \bmod 4 = 0, 1, 2, 3$

$Q = \{A, B, C, D\}$

$E = \{0, 1\}$

$S = A$

$\Delta = \{0, 1, 2, 3\}$

$\lambda(A) = 0$

$\lambda(B) = 1$

$\lambda(C) = 2$

$\lambda(D) = 3$

Decimal	Binary	Mod 4
0	0	0
1	01	1
2	10	2
3	11	3
4	100	0
5	101	1
6	110	2
7	111	3
8	1000	0
9	1001	1

