Erdianti Wiga P PR 5 TBF 13922093 /K-01 Exercise 4.1.1 a) suppose L is a reg language t k is pumping lemma constant W = 0"1" , N>1 G for w= xy = 1xy1 = n , therefore y contists only o's G for k = 0, x & must be m L, but x + consists of fewer than n o's \$ followed by n 11s, therefore x2 & L .. L not regular language b) suppose L 11 a reg larguage 1 k is pumping lemma constant m = "("" ")" " G for w = xyt, |xyl & n , therefore y concutt only "C" 's G For k > 0 , x ? must be m L , but x 2 concerts of fewer than n "C" s & followed by " " ", therefore xt & L =- L not regular language c) suppose i ir a reg language & x is jumping temma constant w = 0" 1" , n > 1 G for w = xyt, |xy| = n , therefore y consists only o's G for k = 0 , x2 must be m L, but x2 consists of fewer than n D's, rollowed by 1 and n o's, therefore X2 & L . L i not regular language d) suppose t is a reg language, w=0" 1 " 2", m & n are arbitrary integers G for w = xy2, |xy1 = n, therefore y consists of only o's G for k = 0, x = must be m 1, but x + concert of fewer than n o's followed by m 1's and n 2's, therefore xt & L - L u not regular language e) suppose L is a reg language, w = 0" 1" ; n = m G for we xyt, |xyl = n, therefore y conflicts only o'r

G FOR Kam, kymt must be on L, but vymt consists of more than m or

G For K = 0, x2 must be m L, but x2 consults of fewer than a out

5 m 15, therefore xym2 & L

f) suppose L is a reg language , w = 0 12 " ; n > 1

Followed by an 1's , therefore Xt & L

G For w = xyt, 1xy1 = 1, therefore y contuty only o's

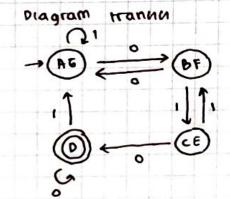
. L is not regular language

.. L is not regular language.

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Table 6	FA	ю	ba	wit	nimized											I		
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→ A		В	1	A						8.	-	100				_		
В		A		С				1	-							-		
c	-	P	-	В			-		-			-		1				
*0		D	-	A		-	- 1	0.000	100	1				-		-		
E .		D		F			-	-		-			12			-		
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a) Praw	the	e ta	<b>b</b> 10	04	disting	uirhat	nlet	191	tor	th	ır	auk	ρmα	ton				
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8	×					G	0	E	quiv	aler	9 21							
c	x x					G				ales		ā , H	3,	4	103			
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C D E F	× × × × × × ×	× ×	× ,			11	9 9 1	LA,	B, C	, 2 ,	f, i						•	03
C 0 E F	* * * * * * * *	< x . x . x	* ; ;	××		11	9 9 1	LA,	B, C	, e ,	f, i						•	03
C 0 E F	* * * * * * * * * * * * * * * * * * *	< x < x < x < x < x	* * * * * * * * * * * * * * * * * * *	× ×	×	(	4 3 1 4 2	EA,	B, C Quiv B, I	, e , aler	f, one e	40	, 6	٤,	(H	۱,		
C 0 E F	* * * * * * * * * * * * * * * * * * *	< x < x < x < x < x	* * * * * * * * * * * * * * * * * * *	× ×	×	(	4 3 1 4 2	EA,	B, C Quiv B, I	, E ,	f, one e	40	, 6	٤,	(H	۱,		
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b) construct the minimum-state equivalent DFA

	0	1
- AG	DF	46
BF	AG	CE
CE	0	DF
*D	0	AG



## Exercise 4.4.2

Table DFA to be minimized

	0	1
→ A	D	E
В	c	F
*c	D	H
D	£	Ħ
E	F	1
E Kf	6	Ь
6	4	В
н	1	C
*1	•	E

a) praw the table of distinguishabilities for the automator

	A	8	c	0	ε	F	6	H
1	×							×
H	×	•	×	×	•	×	×	
	•							
	×							
	×							
	×							
	×							

1 A. B. P. E. G. H3 , 1 C. F. I3

G O Equivalence

G 1 Equivalence {A.D. G.S., 4B.E.H.S., fc,F.IS

ς , εquivalence { ρ, ρ, ς β, Ε, Η β, η c, ξ, Ι β

b) construct the minimum-state equivalent DFH

42	0	1	
→ + DG	BEH	BEH	-
BEH	CFI	CFI	
* cFI	AP 6	BEH	
69000			

