35

1 - 0
2 h
3 - 0
4 h
5 - 0
6 - 0
7 h
8 6
9 - 5
10 h

DE LA SALLE UNIVERSITY
RELIGIO MORES CULTURA
MANILA

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Subject STALGCM

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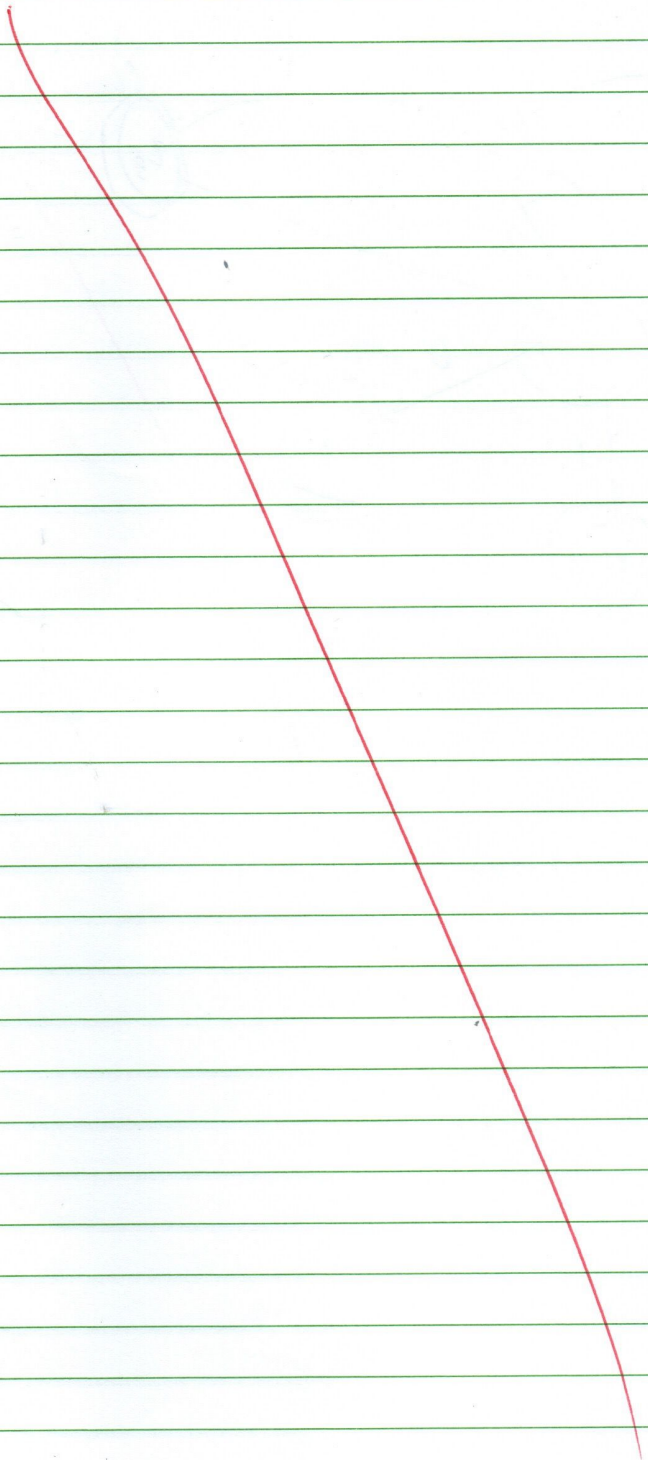
Section S17

1.



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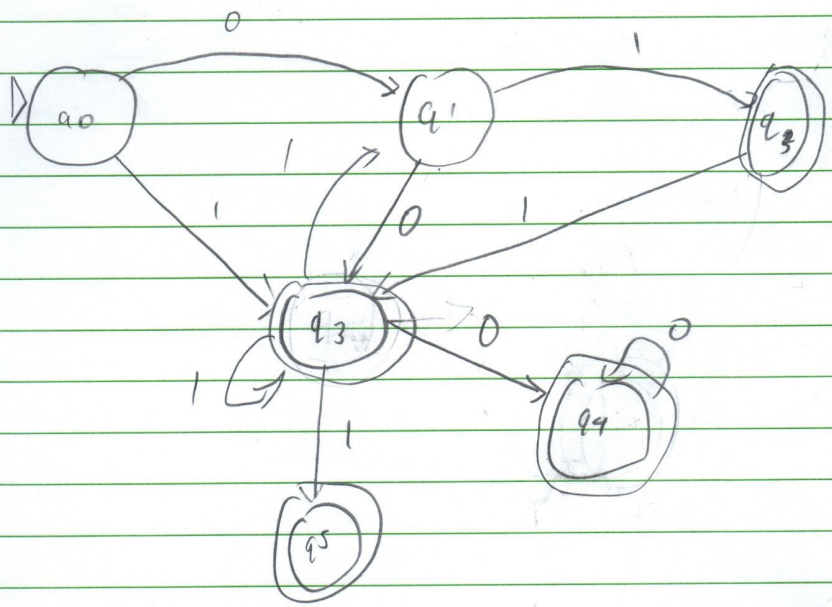

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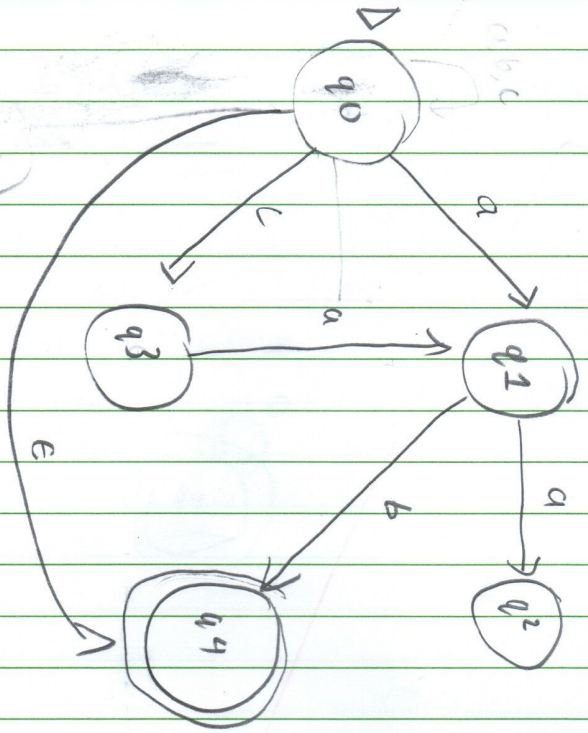

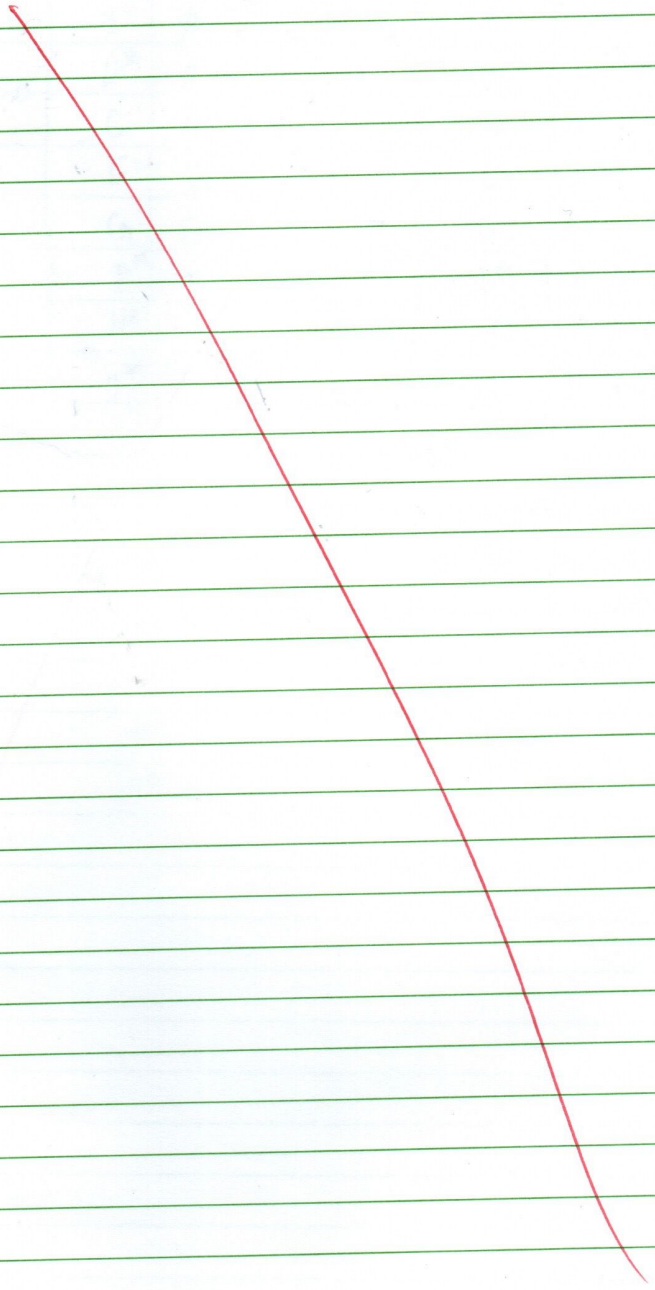

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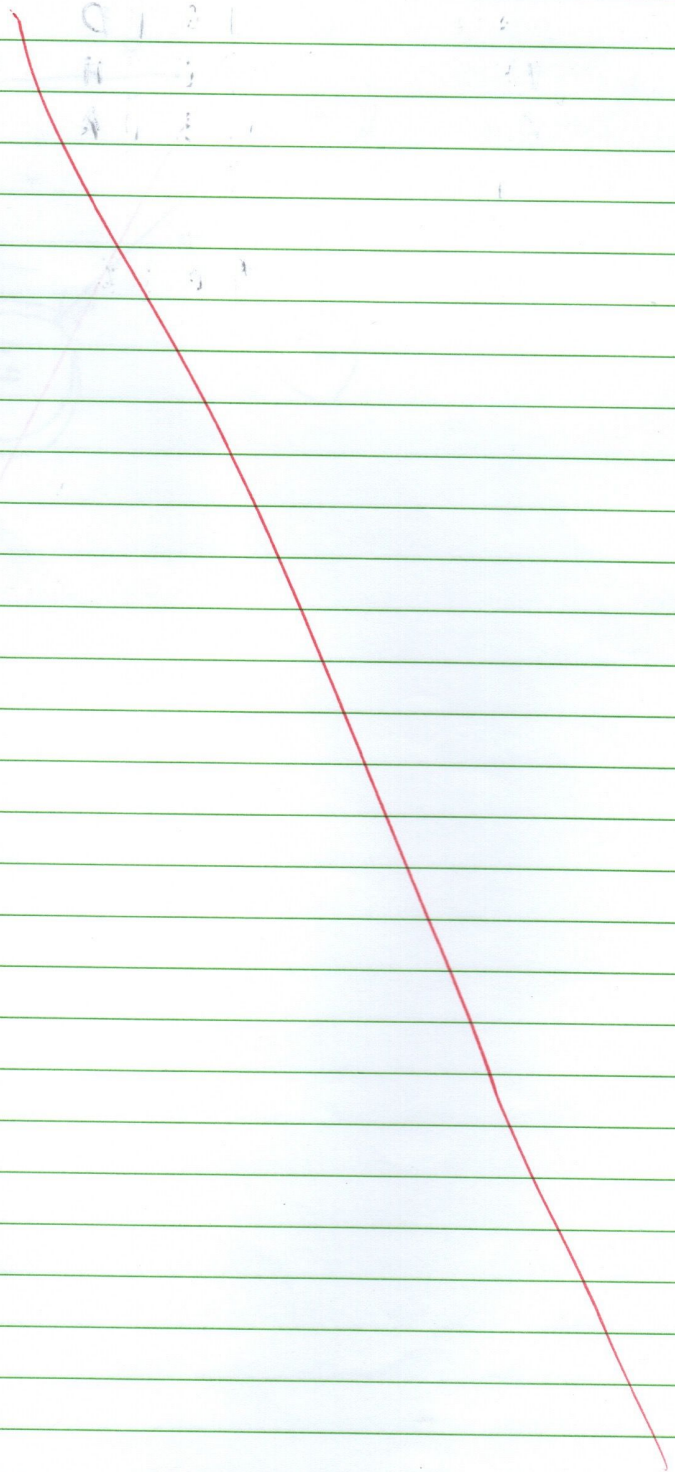

7.

	0	1	2
	a	b	c
→ A	A	D	G
B	A	F	A
C	G	F	D
D*	A	C	F
E	G	F	H
F*	C	A	D
G	G	D	A
H*	B	C	F
I*	E	G	D

0	→ A	A	D	G
	B	A	F	A
	D*	A	C	F
	C	G	F	D
	E	G	F	H
	G	G	D	A
1	F*			
	H*			
	I*	E	G	D

0	→ A	A	D	G
	B	A	F	A
	D*	A	C	F
1	C	G	F	D
	E	G	F	H
	G	G	D	A
2	F*	C	A	D
	H*	B	C	F
	I*	E	G	D

Since A,

∴ Therefore M, is equivalent.

8.

	0	1
→ A	A	C
B*	C	B
C	B	D
D	B	C
E	B	D
F	F	E
→ G	H	K
H*	G	H
I	H	J
J	H	G
K	K	G
L	L	I

C	00	
D	00	0
E	00	
G	00	
I	00	
J	00	
A	01	
B	10	1
H	10	
K	01	
L	10	

C	22	
D	20	0
E	20	
G	20	
I	20	1
J	20	
A	10	
B	10	2
H	11	
K	01	
L	10	

D	31	0
E	30	
C	33	1
G	44	
I	42	2
J	42	
A	31	
B	13	3
L	32	
H	24	4
K	42	

Based on the transition table, the following two DFAs are not equivalent.

Since $A \not\equiv G$

$\therefore DFA_1 \not\equiv DFA_2$.

9.

	e	f
→ q^0 *	q^1	q^0
q^1 *	q^1	q^2
q^2	q^2	q^2

$L(M) = q^0$

$q^{0*} = eq^1 \cup fq^0 \cup \lambda$

$q^{1*} = eq^1 \cup fq^2 \cup \lambda$

$q^2 = eq^2 \cup fq^2$

→

$L(M) = q0$

$q0 = eq1 \cup fq0 \cup \lambda$

$q1 = eq1 \cup f(euf)^* \cup \lambda$

$L(M) = q0$

$q0 = e(euf(euf)^*(euf)) \cup f_{q0} \cup \lambda$

$L(M) = (e(euf(euf)^*(euf) \cup f)^*(e(euf(euf)^*(euf))$

5

10.

	a	b	c	λ
→ A	B	A	A	D
B	C	B	B	
C*		B	B	A
D*	D	E	E	
E	D	E	E	

	a	b	c	λ	λ-Closure
→ A	B	A	A	D	ABD
B	C	B	B		BCD
C*		B	B	A	ABCD
D*	D	E	E		ABCDE
E	D	E	E		ABCDE

	a	b	c
→ A	(B) ABCDE	(A) ABCDE	(A) ABCDE
ABCDE	(BCD) ABCDE	(ABE) ABCDE	(ABE) ABCDE

	a	b	c
→ A	ABCDE	ABCDE	ABCDE
ABD*	ABCDE	ABCDE	ABCDE