

Student Name _____

Section 1(9. 50A) or 2 (10.10A)

**Take home part of the Final CSE271. Answer both questions
(Ten points each question).**

**Complete and submit at the end of 12/15/06 class or at the Exam hall before taking
your exam. Attach additional paper as needed to this answer sheet**

1a. Use a tabular method for state reduction for the following state table. Make sure that you provide explanation of each step to demonstrate your understanding of the procedure. (Hint: Read Ch 9 of the text). (8 pts)

q	q*		z	
	x = 0	x = 1	x = 0	x = 1
A	F	B	0	0
B	E	G	0	0
C	C	G	0	0
D	A	C	1	1
E	E	D	0	0
F	A	B	0	0
G	F	C	1	1

1b. Now suppose that in the above table, you interchange the rows associated with state D (that is q=D) with that of the row of state F (q=F), would the result change? (1 point) and Why? (1 point)

2. Design the following system making two different state assignments. Consider solutions that use (i) only JK flipflops (4points) (ii) only D flipflops (4 points). Which solution is better and why?(2 pts) (Hint Read Ch 7 of the text)

q	q*		output z
	input x=0	input x =1	
S1	S2	S1	0
S2	S3	S1	0
S3	S4	S1	0
S4	S4	S5	1
S5	S4	S6	1
S6	S4	S1	1