PES UNIVERSITY, Bangalore

(Established under Karnataka Act No. 16 of 2013)

Department of Computer Science & Engineering

UE19CS205 - Automata Formal Languages & Logic

Homework - Minimization of DFA

For the given DFA's answer the following:

a) Find the distinguishable states by filling out the table below. However, place X's only for those pairs that are distinguishable by the basis step.

b) Draw the transition table for the minimum-state equivalent DFA.

		a	b	
→	q_1	q_3	q_5	F
	q_2	q_8	q_7	F
	q_3	q_7	q_2	
	q_4	q_6	q_2	
	q_5	q_1	q_8	
	q_6	q_2	q_3	
	q_7	q_1	q_4	
	q_8	q_5	q_1	

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

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

	a	b
→ 1	6	2
2	3	6
3 **F**	2	4
4 **F**	5	3

	a	b
5	4	1
6	1	5
7	1	8
8	8	7