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SWE 6673

Spring 2023

Assignment 1

1/31/2023

1. Assume that there are three conditions for the account login of the internal server in one company: (1) The user can enter a valid email or invalid email. (2) The user's email must be already stored in the company's database (3) A user enters a correct or incorrect password. You can login successfully only all the three conditions are satisfied. Draw a complete decision table. (30 points)

Valid Email	Stored in Database	Correct Password	Result
Yes	Yes	Yes	Valid Login
Yes	Yes	No	Invalid Login
Yes	No	Yes	Invalid Login
Yes	No	No	Invalid Login
No	No	No	Invalid Login
No	Yes	No	Invalid Login
No	Yes	Yes	Invalid Login
No	No	Yes	Invalid Login

2. Convert the following state transition diagram to state transition table. (30 points)
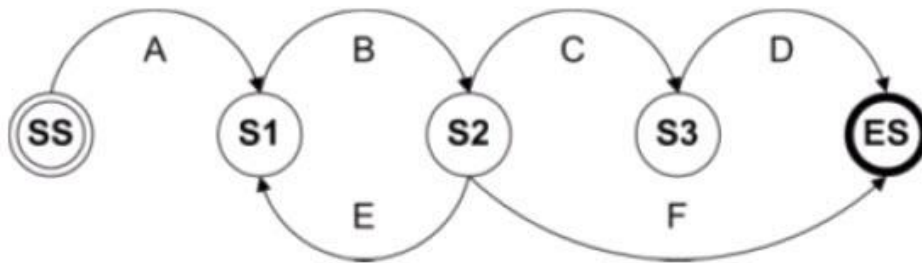
Input State	A	B	C	D	E	F
SS	S1					
S1		S2				
S2			S3		S1	ES
S3				ES		
ES						

3. Consider the following table used for grading assignments. (40 points)

Score in points	Grade
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

Create a table that lists the **valid and invalid equivalent partitions** and give the test cases for each. Your test cases are required to incorporate **boundary value testing**; please include a column to show the expected LETTER grade expected for all tests.

Input	Valid Equivalence Classes	Invalid Equivalence Classes	Expected Grade
An integer N such that 90<= N <=100	[90, 100] [91, 99]	[89, 101] [-90, -100]	A
An integer N such that 80<= N <=89	[80, 89] [81, 88]	[79, 90] [-80, -89]	B
An integer N such that 70<= N <=79	[70, 79] [71, 78]	[69, 80] [-70, -79]	C
An integer N such that 60<= N <=69	[60, 69] [61, 68]	[59, 70] [-60, -69]	D
An integer N such that 0<= N <=59	[0, 59] [1, 58] [0]	[60, 90] [-1, 60]	F