School of Computing
Computer Science Program

CDA 3101

Introduction to Computer Logic

Assignment 7 - A

Rubric

Student Name			
Assignment Name	**Assignment 7 - Part A : Sequential State Machines Analysis and Design**		
Assignment Checklist	**Maximum Available Points**	**Received Points**	**Information**
Waveform of given State Machine	20		Waveform via Multisim Grapher View. Must compare to state table.
Diagram of State Machine built with Multisim	40		Inputs and outputs clearly marked. Use clock with logic analyzer to prove proper operation. Use push-button for Reset
State Table	20		Correctly populated state table
State Diagram	20		Diagram reflecting state table
Other Documents	na		
Final Assignment Grade	**Total =**		

Notes for Scoring:

Note 1: A final grade of "0" will be assigned if the circuit demonstration fails to work completely.

Note 2: Assignments will not be accepted late.

Note 3: Any assigned quizzes that are associated with this assignment will be taken on Bb unless otherwise noted.

Note 4: All submitted documents from MultiSim must contain the student's name and UNF n-number printed via the software (insert text). No name and number; no points!!!!

Note 5: No "print screens" will be accepted from Multisim. Print all documents using the print function within the software.

Assignment 7: Sequential State Machines
Analysis and Design
Part - A

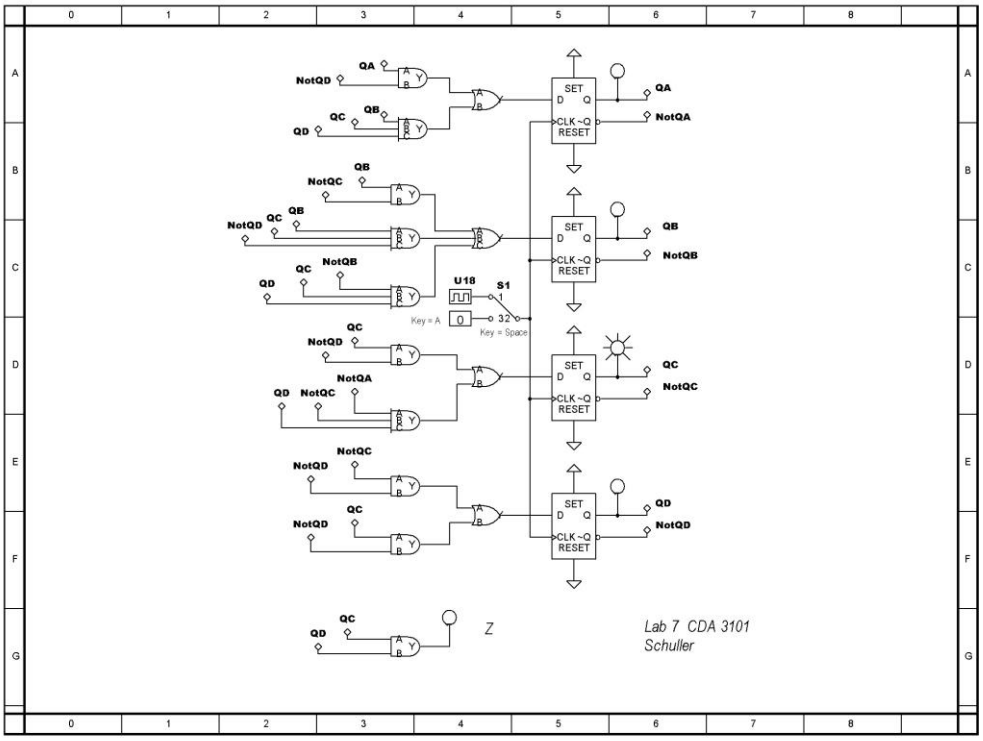
The purpose of this assignment is to give the student experience in analysis and design of a Mealy State Machines.

Equipment needed:

Various TTL Gates and Flip-Flops
Multisim Software

Objectives:

You are to analyze the given state machine shown below. Note that the logic diagram is also attached as a full page at the end of this document.

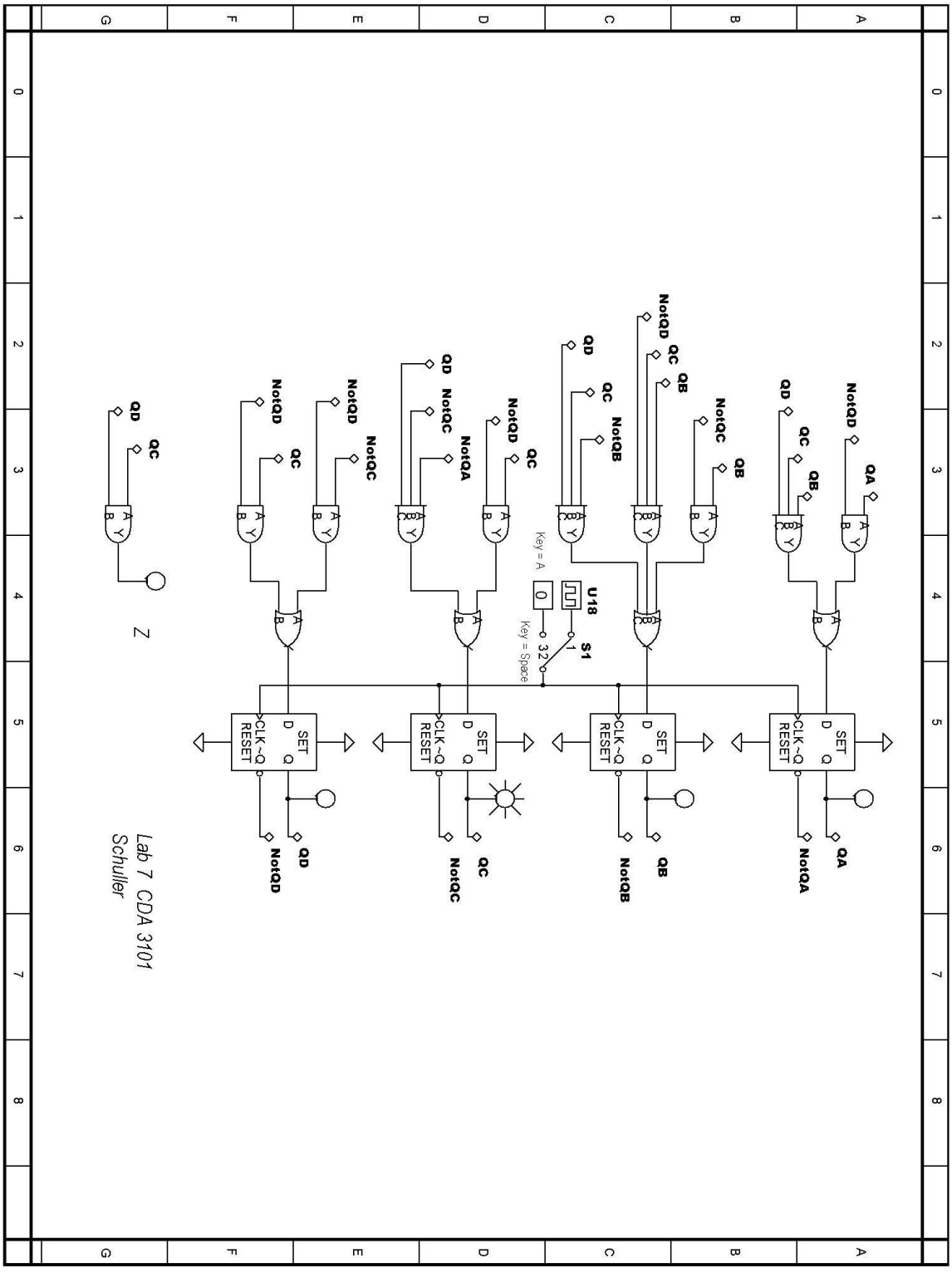


A) Using the diagram above, create a Mealy state table for this circuit. Submit a copy of this document for grading.

B) Use this state table to create a Mealy state diagram for this circuit. Submit a copy of this document for grading.

C) Build this circuit using Multisim and confirm the operation of the circuit matches your state table and state diagram. Printout the circuit and submit a copy for grading. Also submit a copy of the Multisim circuit.

D) Printout the resultant waveforms for this circuit. Use the waveforms to confirm that your designs are correct. Submit a copy of this document for grading.


Lab 7 CDA 3101
Schuller
Key = A
Key = Space
U18
S1
Z
SET
CLK~Q
RESET
D
Q
QA
QB
QC
QD
NotQA
NotQB
NotQC
NotQD