hw1

Graded

Student

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Total Points

15.5 / 21 pts

Question 1

HW 0 second chance

1 / 0 pts

✔ **+ 1 pt** 1 correction

answer not 45

Question 2

DFA Formal Description — **8** / 10 pts

2.1 Formal Description

4 / 5 pts

✔ **– 0.5 pts** Did not state construction of DFA (M = (...))

✔ **– 0.5 pts** F should be a set

2.2 Accepting Computation or not

4 / 5 pts

✔ **– 1 pt** c incorrect

Question 3

Create DFA

2 / 5 pts

✔ **– 0.5 pts** Did not include final statement specifying if FSM recognizes language->language is regular->language is regular language

✔ **– 2 pts** Wrong DFA

✔ **– 0.5 pts** F must be a set

Question 4

"Real" Computation DFA

3.5 / 5 pts

✔ **– 0.5 pts** accept states should be a set

✔ **– 1 pt** did not say why answer proves that the language is regular

Problem asks to prove the language is regular. answer should say that L2 is regular because it has a DFA because that is definition of regular languages

Question 5

Readme

1 / 1 pt

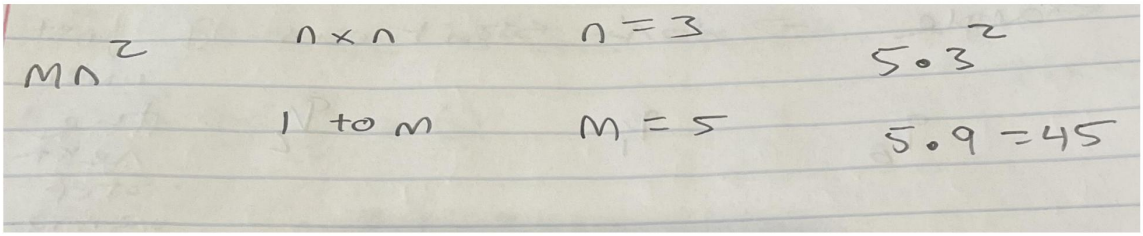
✔ **– 0 pts** Correct

Question assigned to the following page: 1

HW0 Second Chance

question 4.1:

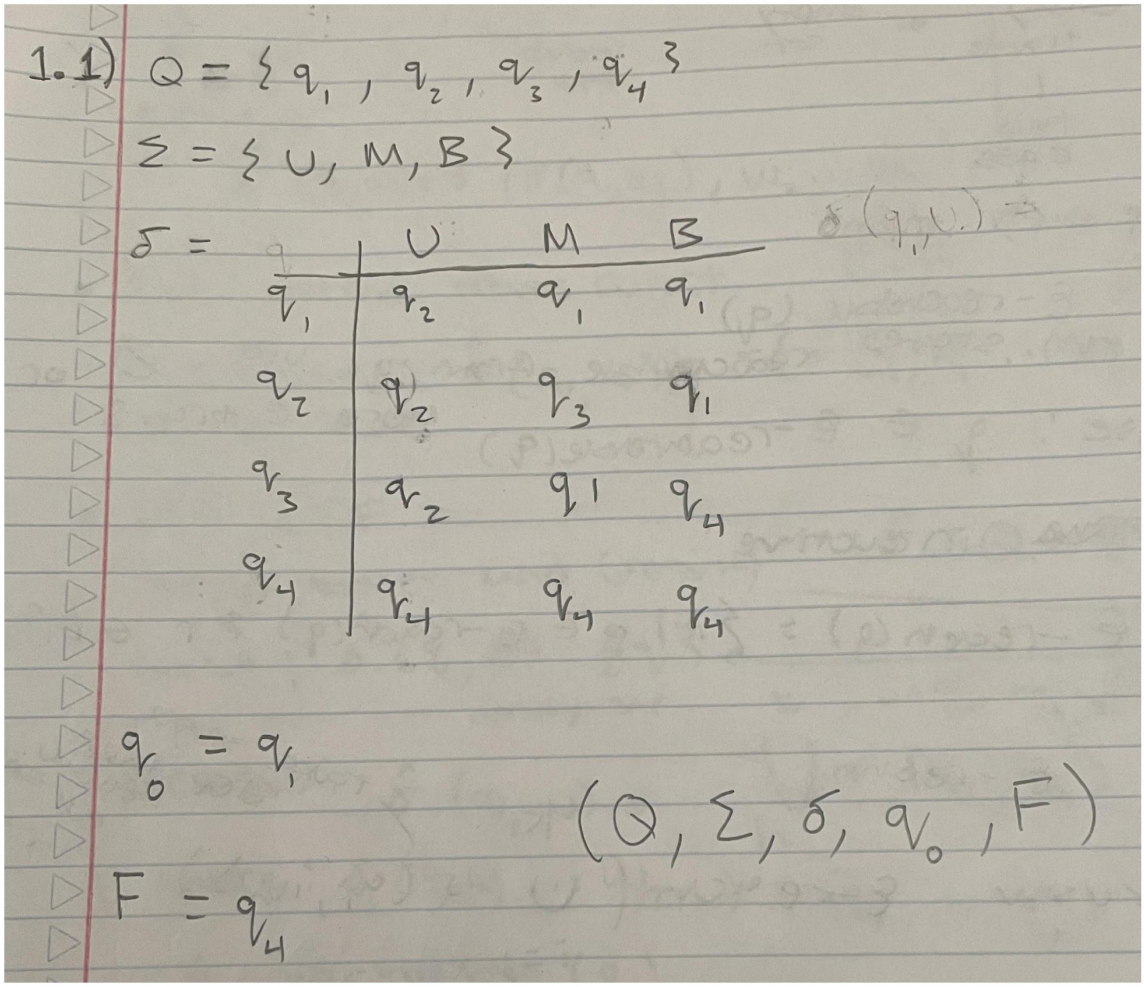
My misunderstanding was that I did not use the correct formula. At the time of doing it I thought it was supposed to be about n choose r (binomial coefficient), which turned out to be wrong. The right answer should be 45 because I simply had to use the formula that I discovered in question 4.2 through trial and error. My work:



Question assigned to the following page: 2.1

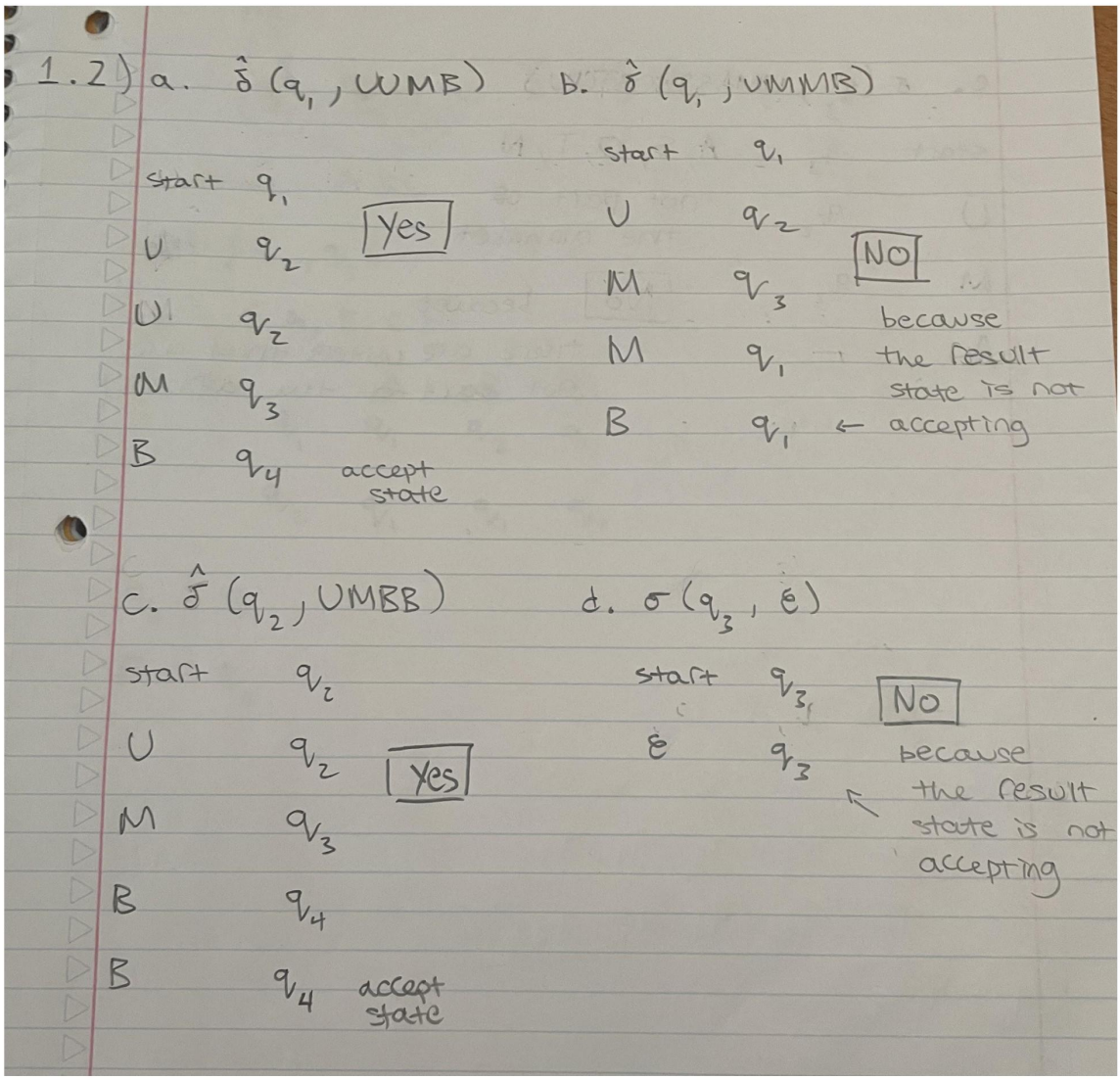
DFA Formal Description

1.1



Question assigned to the following page: 2.2

1.2


1.2) a. $\hat{\delta}(q_1, UMB)$
start q_1
U q_2
U q_2
M q_3
B q_4 accept state
Yes
b. $\hat{\delta}(q_1, UMMB)$
start q_1
U q_2
M q_3
M q_1
B q_1 ← accepting
NO
because the result state is not accepting
c. $\hat{\delta}(q_2, UMBB)$
start q_2
U q_2
M q_3
B q_4
B q_4 accept state
Yes
d. $\delta(q_3, \varepsilon)$
start q_3
ε q_3
NO
because the result state is not accepting

Question assigned to the following page: 2.2

e. $\delta(q_3, \text{UMASSBOSTON})$

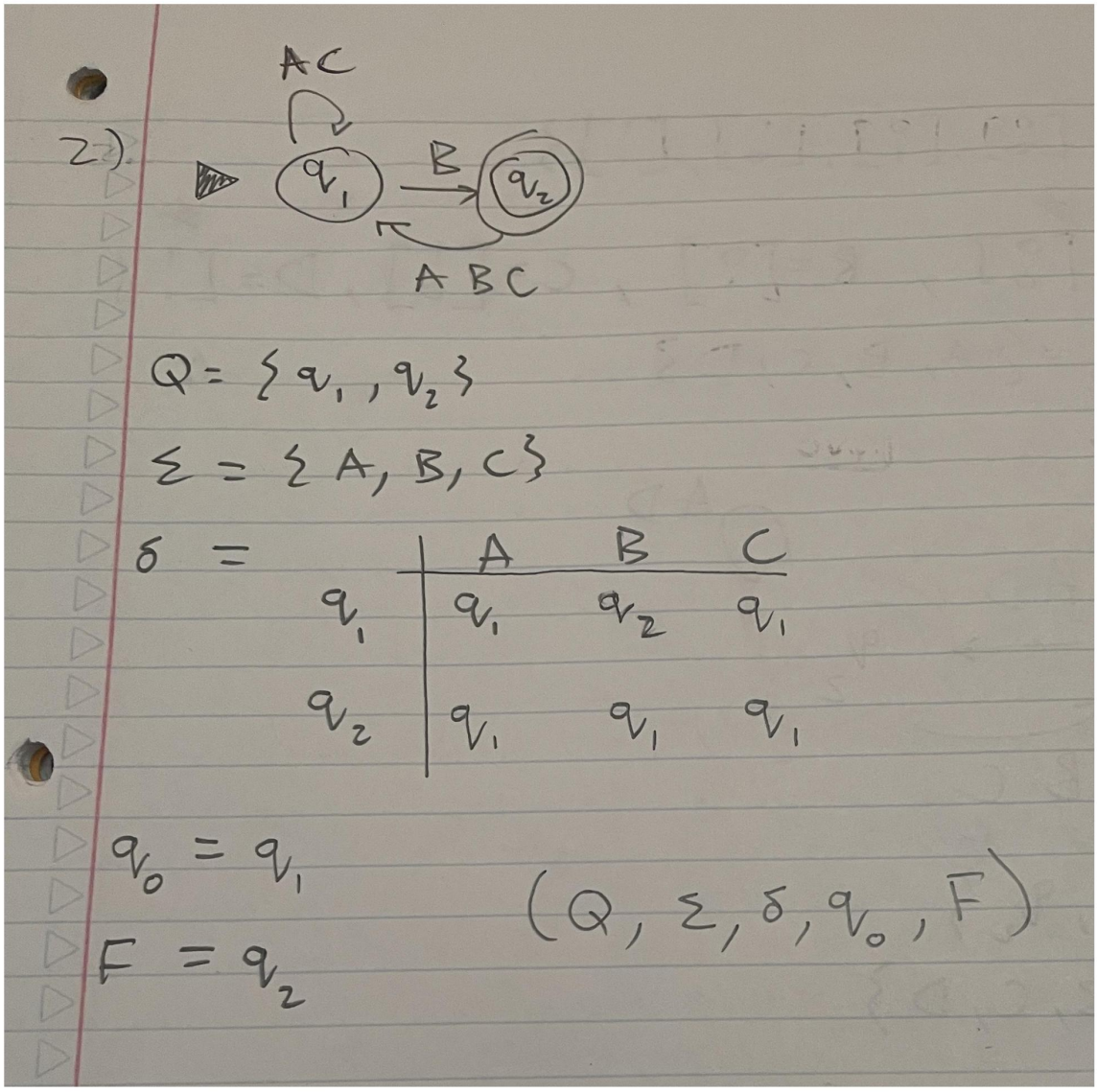
start	q_3	A, S, O, T, N
U	q_2	not part of the alphabet
M	q_3	
A	—	

No because there are letters that are not part of the alphabet

Question assigned to the following page: 3

Regular or Not

2.

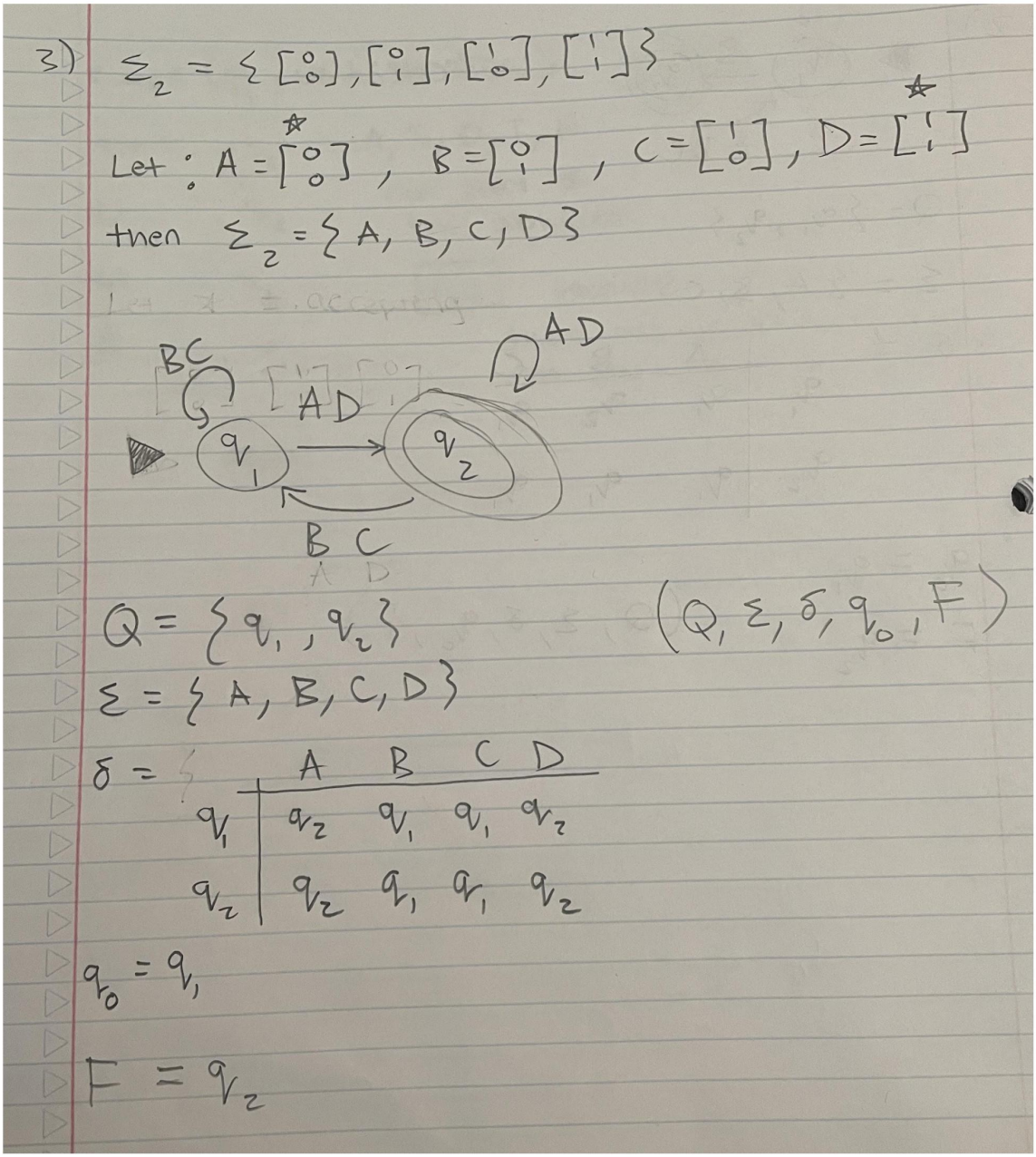


	A	B	C
q_1	q_1	q_2	q_1
q_2	q_1	q_1	q_1

Question assigned to the following page: 4

Real Computation with DFA's

3.



	A	B	C	D
q_1	q_2	q_1	q_1	q_2
q_2	q_2	q_1	q_1	q_2

Question assigned to the following page: 5

README
time spent: 2 hours
names of other students: None
books/websites used: class website slides