

Jerry Olds

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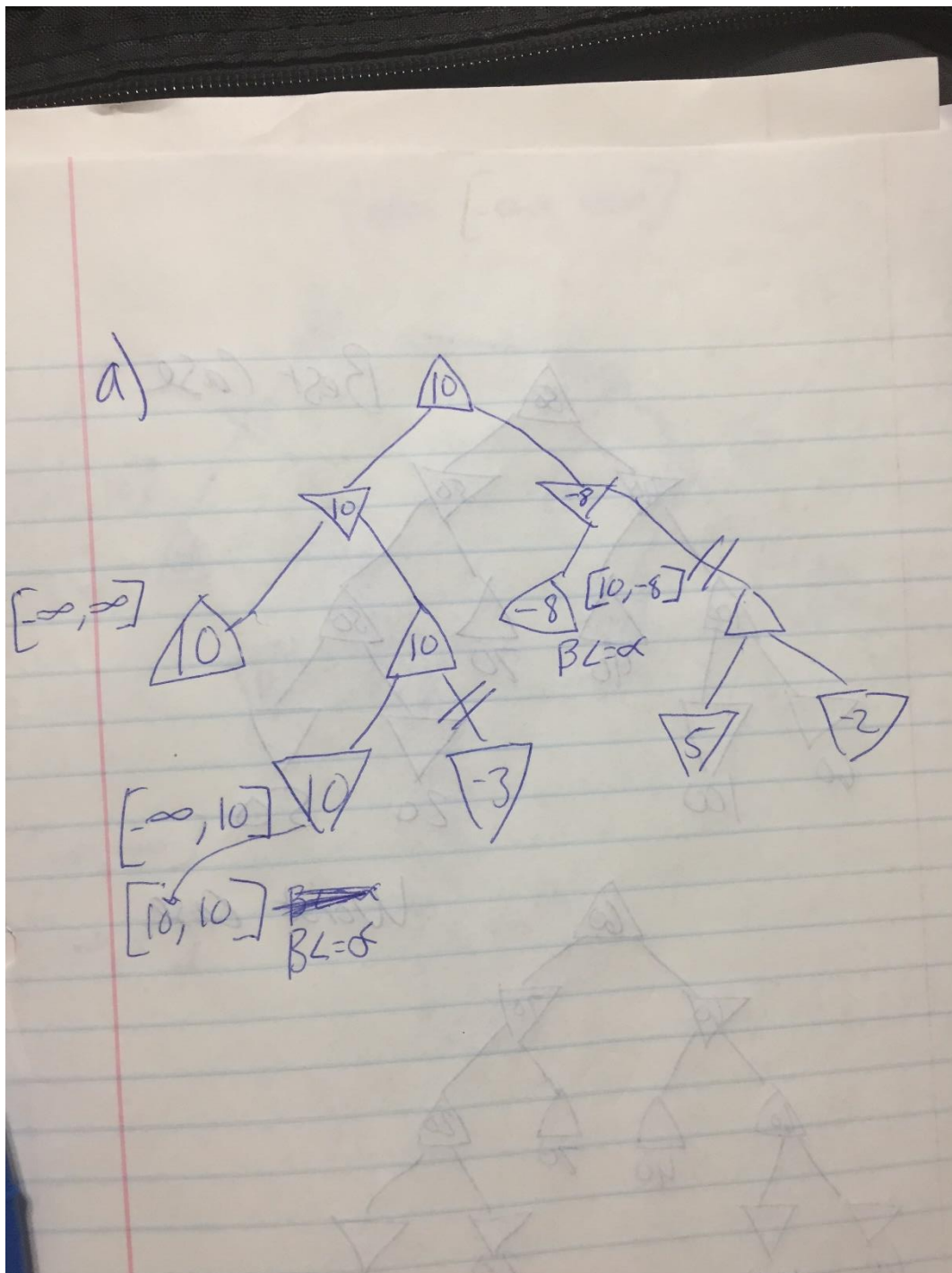
CSE-4308-002

7/22/2019

Assignment 2

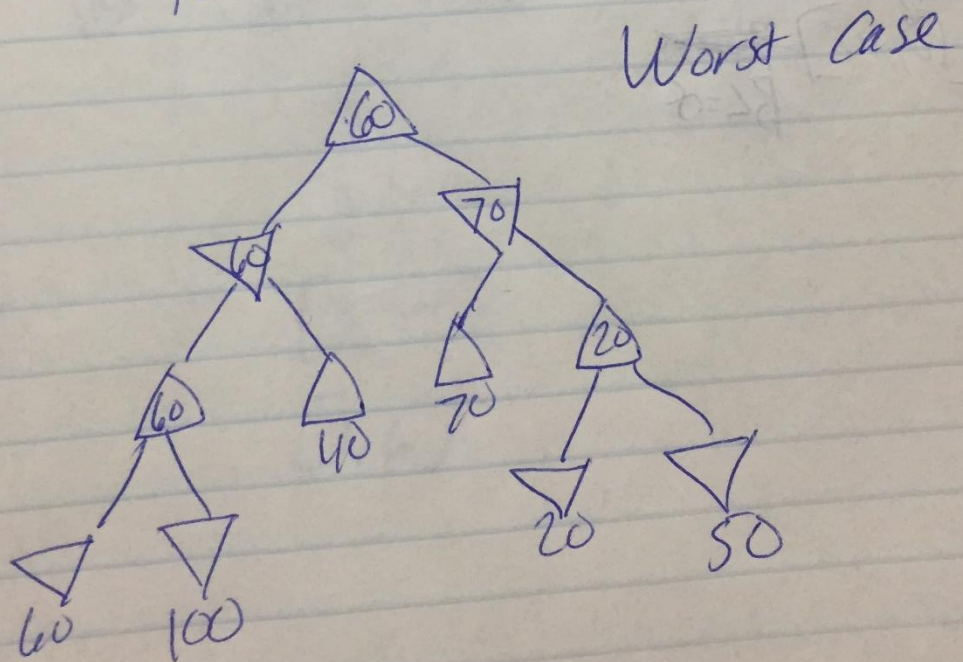
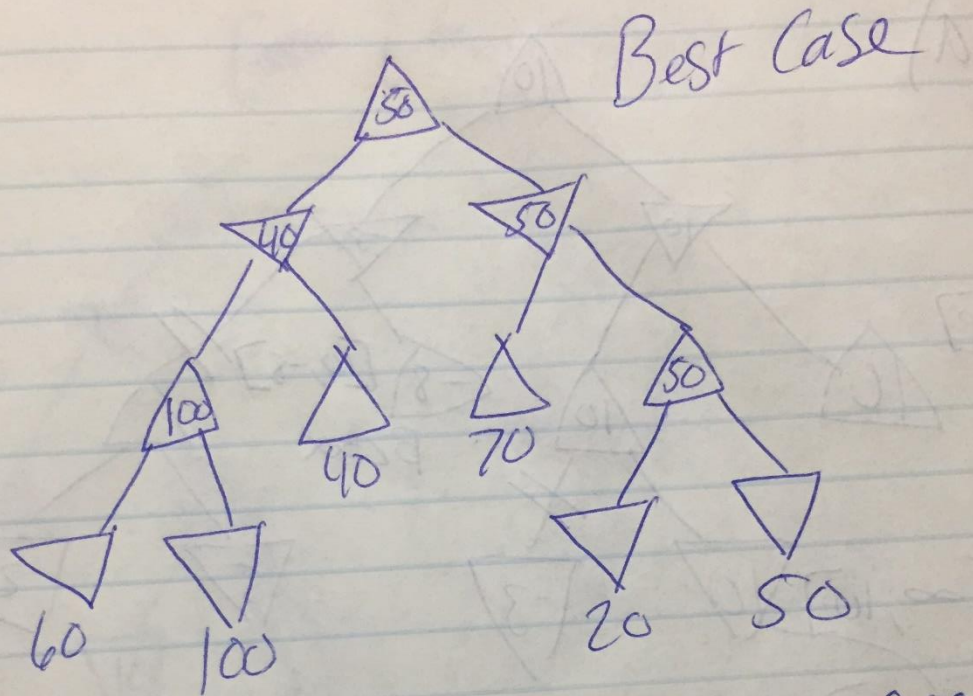
1.

a)

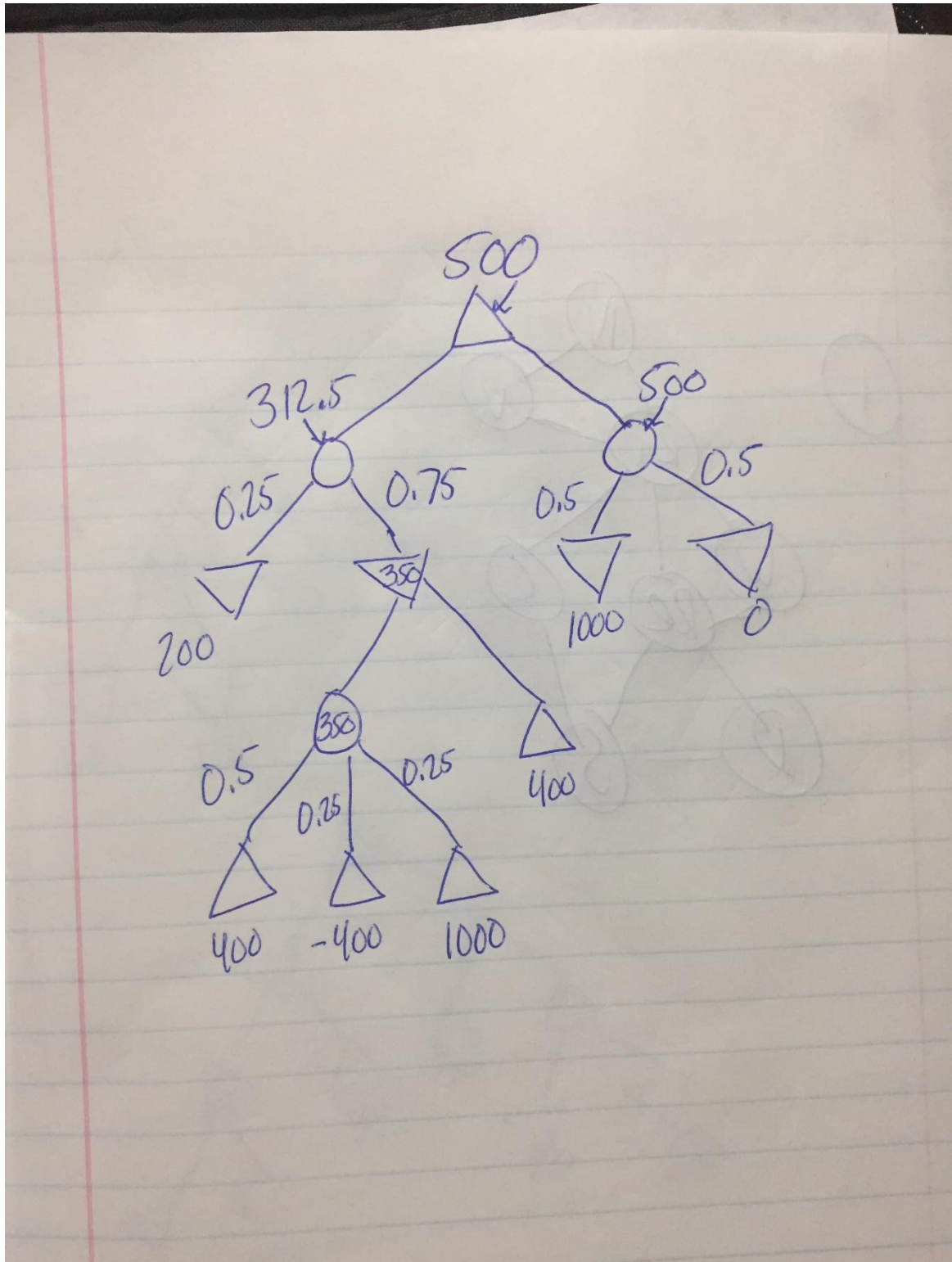


b) If 10 was the maximum value, the whole right side of the tree would not be explored.

2.

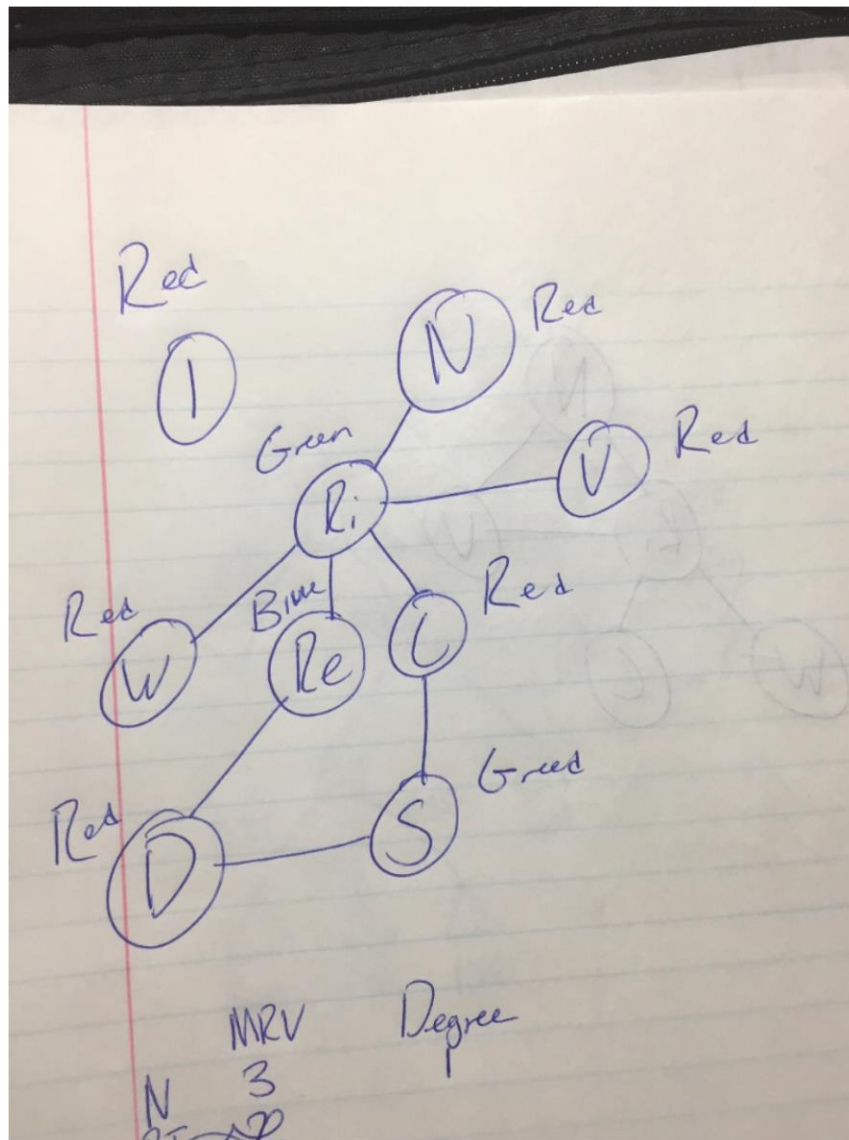


3.



Max: 1000
Min: 200

4.



	MRV	Degree
N	3	1
RI	2	2
Re	1	3
V	2	2
W	2	3
C	2	3
S	1	4
D	1	4
I	3	1

5.

a) $A = \text{True}, B = \text{True}, C = \text{False}, KB = \text{False}, S1 = \text{True}$

So KB does not entail S1

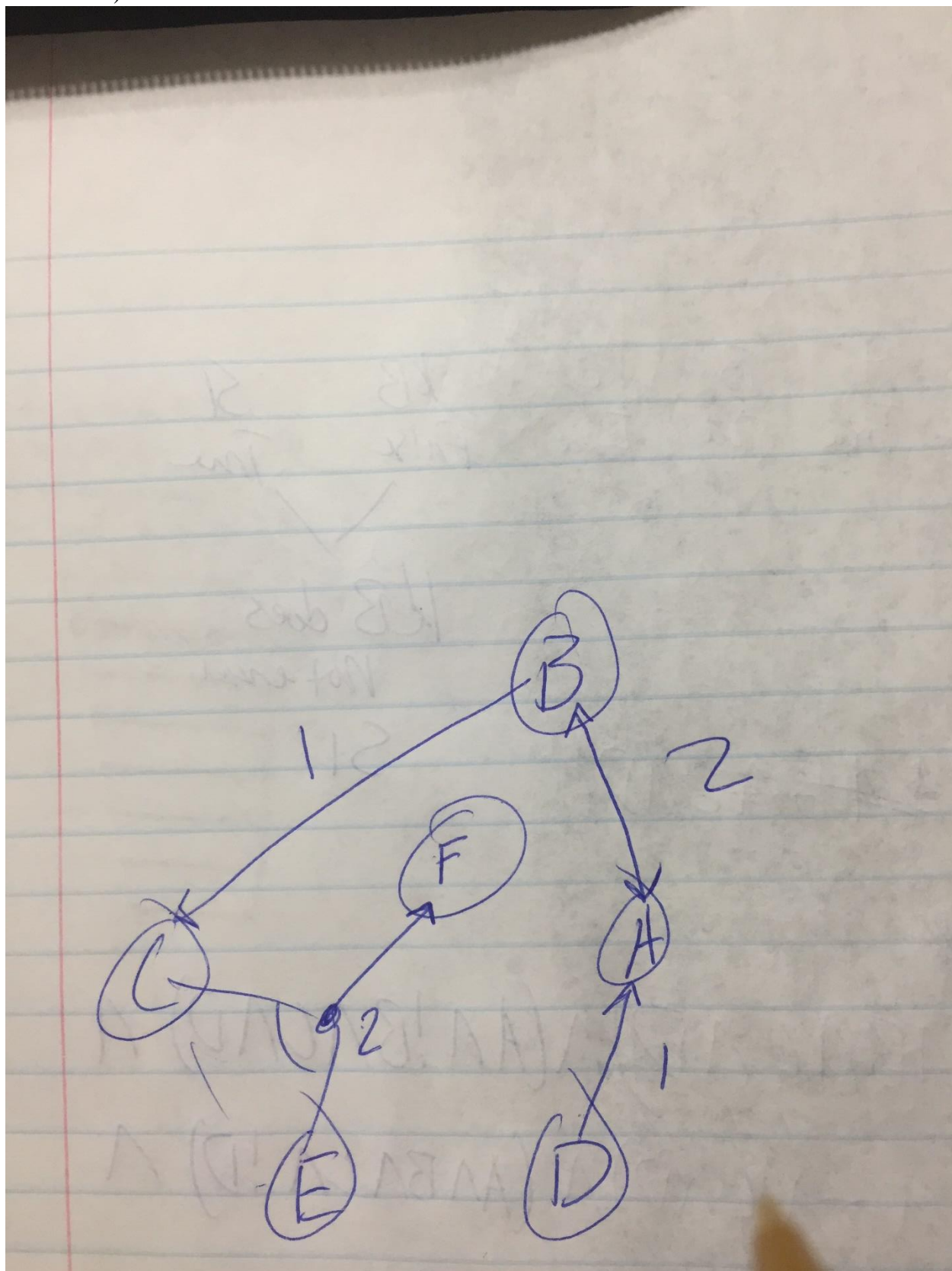
b) $A = \text{True}, B = \text{True}, C = \text{False}, KB = \neg(\text{False}) = \text{True}, S1 = \neg(\text{True}) = \text{False}$

NOT(KB) does not entail NOT(S1)

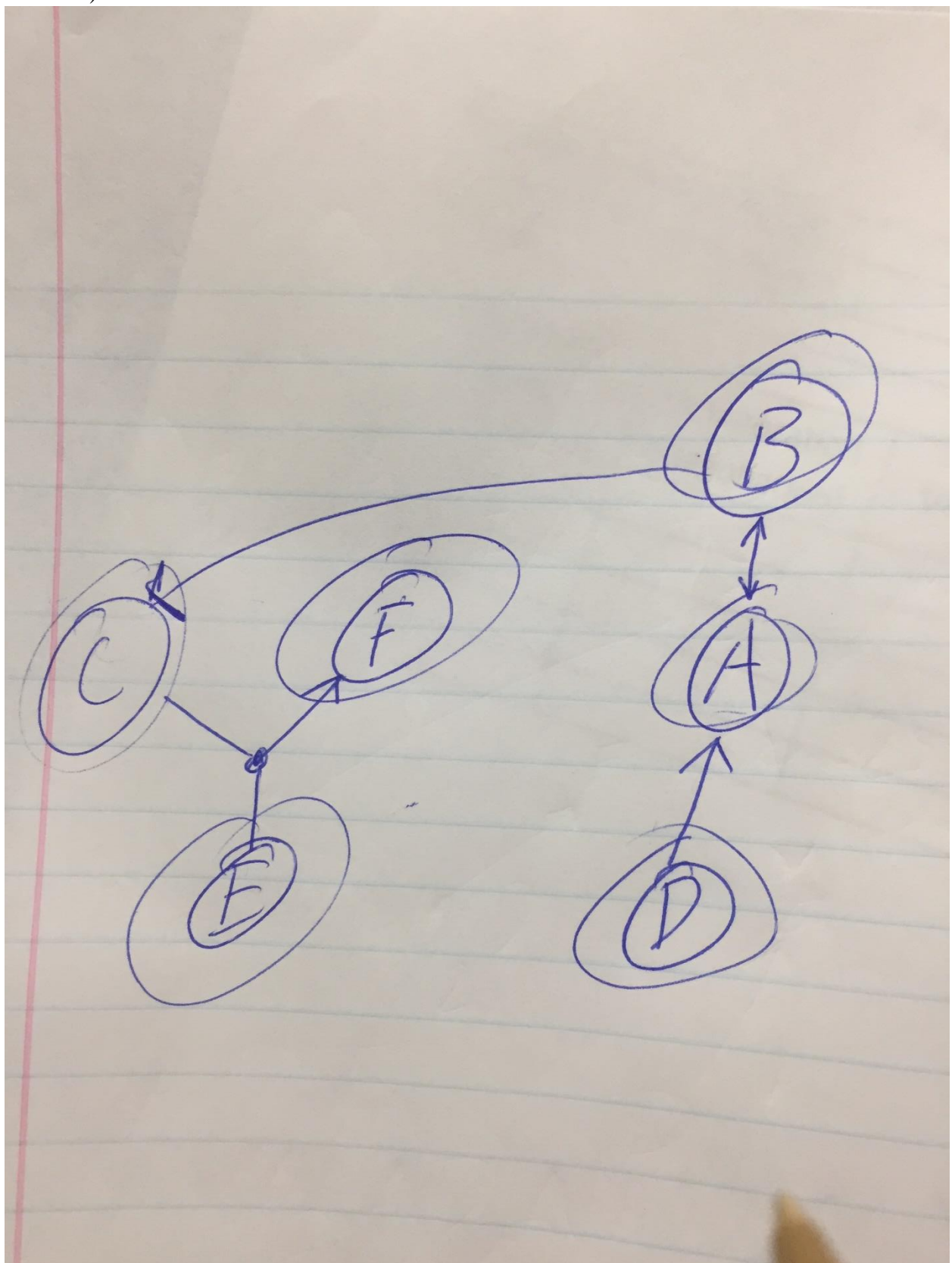
6.

$(A \wedge \neg B \wedge \neg C \wedge \neg D) \wedge (\neg A \wedge B \wedge \neg C \wedge D)$

7. a)



b)



c)

$$(A \Rightarrow B) \wedge (B \Rightarrow A)$$

$$(!A \vee B) \wedge (!B \vee A) \wedge (!D \vee A) \wedge (!C \vee E) \vee F) \wedge E \wedge D$$

$$(!A \vee B) \wedge (!B \vee A) \wedge (!D \vee A) \wedge (!C \vee E) \vee F) \wedge E \wedge D$$

$$(!A \vee B) \wedge (!B \vee A) \wedge (!D \vee A) \wedge (!C \vee E \vee F) \wedge E \wedge D$$

8.

$R(a)$ – Rained on a day

$C(b,c,a)$ – b gives cheque to y on day a

$M(b,a)$ – b mows lawn on day a

a) $R(\text{May 1, 2017}) \rightarrow G(\text{John, Mary, May 2, 2017})$

$G(\text{John, Mary, May 2, 2017}) \rightarrow M(\text{Mary, May 3, 2017})$

b) $\neg R(\text{May 1, 2017})$

$G(\text{John, Mary, May 2, 2017})$

$M(\text{Mary, May 3, 2017})$

c) The contract was not violated, it did not rain so John did not have to give the cheque to Mary. John gave the cheque Mary anyway and Mary mowed the lawn.