Midterm 1 Version 1 Review

March 28, 2020

Question 1

a. Because we know

$S_1 = \{aa, bb, cc, aab, aac, aaa, bba, bbb, bbc, cca, ccb, ccc, aaaa, \dots\}$ and S_2 is a set of all strings over U with length 3, we can conclude

$$S_1 \cap S_2 = \{aaa, aab, aac, bba, bbb, bbc, cca, ccb, ccc\}$$

b. See table below

p	q	r	$\neg r$	$p \vee q$	$p \vee q \Rightarrow \neg r$
T	T	T	F	T	F
T	T	F	T	T	T
T	F	T	F	T	F
F	T	T	F	T	F
T	F	F	T	T	T
F	T	F	T	T	T
F	F	T	F	F	T
F	F	F	T	F	T

Question 2

Question 3

Question 4