Homework 5 CS3110
Points possible: 10
Section 3.1 Pg 78, #8, #9 (b), (c), #17

Section 3.1

#8) (2pts) Regex for set $\{a^n b^m : (n+m) \text{ is odd}\}$.

Answer:

r = a(aa)*(bb)* + (aa)*b(bb)*

#9) Give regular expressions for the following languages:

b) (2pts) $L_2 = \{a^n b^m : n < 4, m \leq 4\}$.

Answer:

r = (λ + a + aa + aaa)(λ + b + bb + bbb + bbbb) , other answers are possible

c) (3pts) Complement of L_1.

Answer:

r = (λ + a + aa)b* + a*bbbbbb* + (a+b)*ba(a+b)*

Not unique, other answers are possible.

#17) (3 pts) Find a regular expression for L = {vwv: v, w $\in${a,b}*, |v|<=4}

Answer:

r = (a+b)*