

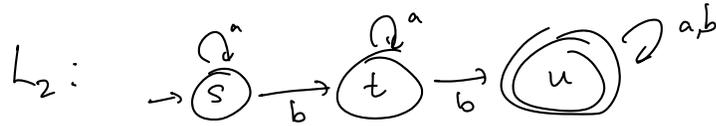
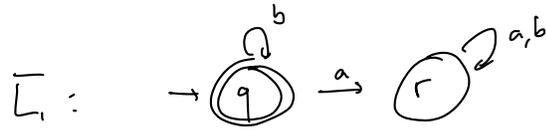
Math 3342 Homework #3

Chapter 3 #4b

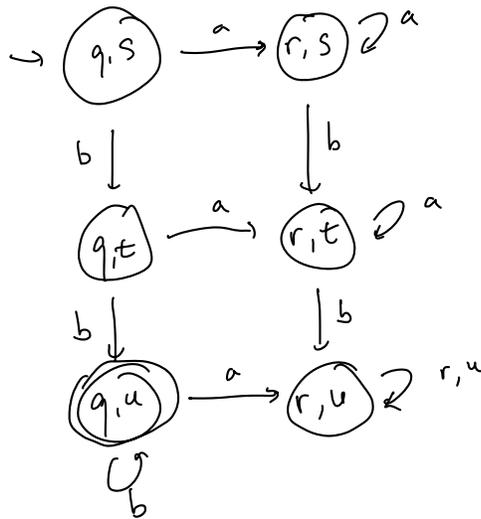
Chapter 5 #1, #3 & f

Extra Problems #2

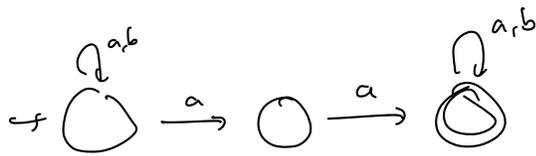
3 #4b



$L_1 \cap L_2$



5 #1



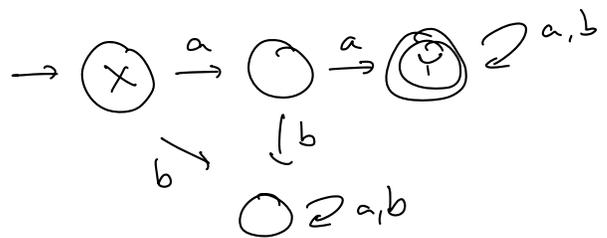
- aa ✓
- baabb ✓
- aabaab ✓
- ababa ✗
- cbabaab ✓

5 #3 def



Extra #2

$\{aax\}$



Thm $\delta^*(X, aax) = Y$

Pf by induction on $n = |x|$

Base case $n=0$:

WTS

$\delta^*(X, aa) = Y$

this is true by the diagram.

Induction

Assume $\delta^*(X, aax) = Y$ when $|x|=k$.

WTS $\delta^*(X, aax) = Y$ when $|x|=k+1$.

Let $|x|=k+1$, so $x = yl$ where $|y|=k$.

Then $\delta^*(X, aax) = \delta^*(X, aayl)$

$= \delta^*(\delta^*(X, aay), l)$

$$\stackrel{H}{=} \delta^*(Y, \ell) = Y$$

Shew.