

Math 3342

Homework #9

Chapter 13 #7, 12

Other problems #2b, #2c

Chapter 13 #7

$$S \rightarrow S_1 | S_2$$

$$S_1 \rightarrow aS_1a | bS_1b | \epsilon$$

$$S_2 \rightarrow XXS_2 | X$$

$$X \rightarrow a | b$$

read	pop	push
ϵ	S	S_1
ϵ	S	S_2
ϵ	S_1	aS_1a
ϵ	S_1	bS_1b
ϵ	S_1	ϵ
ϵ	S_2	XXS_2
ϵ	S_2	X
ϵ	X	a
ϵ	X	b
a	a	ϵ
b	b	ϵ

$$(abba, S) \mapsto (abba, S_1) \mapsto (abba, aS_1a) \mapsto (bba, S_1a)$$

$$\mapsto (bba, bS_1ba) \mapsto (ba, S_1ba) \mapsto (ba, ba) \mapsto (a, a) \mapsto (\epsilon, \epsilon)$$

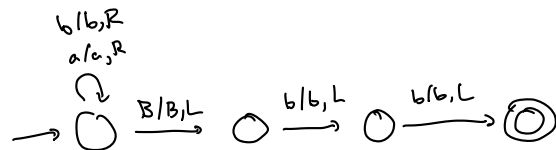
#12

$$S \rightarrow aOS | \epsilon$$

$$O \rightarrow aOO | b$$

$$S \Rightarrow aOS \Rightarrow abS \Rightarrow ab aOS \Rightarrow ababS \Rightarrow abab$$

#2b $\{x b b\}$ go all the way to the end,
then back up for 2 b's



#2c $\{ |x| < 3 \}$

