

Homework 3

1. Some concerns that I had going into the midterm were using the pumping lemma to prove nonregularity and having to write/recall and use theorems to write proof for a claim. The last problem came as a surprise with having to write that proof. I prepared for a problem like that but froze when I came across it during the test. I think I prepared well for the test, but just need to take a deep breath, clear and reset my mind to tackle the problem in front of me without freezing up. A new strategy I might try is rereading parts of the textbook to thoroughly go over the content that we are being tested on. I don't think I will discontinue any of my studying practices because each one helped to prepare me in some way. Thus I will continue to do the practice problems, create a notesheet, and reviewing homework problems. For the class sessions, I think the way you are conducting class and going through everything thoroughly is helping a lot.

$$2. \{ww^R \mid w \in \{0,1\}^n, n \geq 0\}$$

$$S \rightarrow OSO \mid ISI \mid \epsilon$$

$$\text{CFG } G = (\{S\}, \{0,1\}, R, S) \text{ w/ } R = \{S \rightarrow OSO, S \rightarrow ISI, S \rightarrow \epsilon\}$$

Extra Grd. $\{wbw^R \mid w \in \{0,1\}^n, n \geq 0, b \in \{0,1\}\}$

$$S \rightarrow OSO \mid ISI \mid 0 \mid 1 \mid \epsilon$$

$$\text{CFG } G_1 = (\{S\}, \{0,1\}, R, S) \text{ w/ } R = \{S \rightarrow OSO, S \rightarrow ISI, S \rightarrow 0, S \rightarrow 1, S \rightarrow \epsilon\}$$

Citation: Used textbook and notes