

## CSC 456 Operating Systems

Spring 2021

Krebsbach

DUE: February 11<sup>th</sup>, 11:00 AM CST (dropbox)

Assignment #2 - Chapter 4 15 points

Please put completed assignment work into the dropbox.

### Do the following: (1 problems)

1. Exercise 4.11 possess the question *"Is it possible to have concurrency but not parallelism"* While investigating the programming language **GO** I came across a nice demonstration that not only addresses this question but also speaks more generally about the concept of Concurrency and that of Parallelism. Rob Pike has a nice set of slides that visually depicts the concepts of concurrency and parallelism in very nice way.

I found having the presentation open in one window and the slides in another helpful as you can move the slides along with his talk.

The slides we are interested in end around #29, after that it is some examples in the GO language which you do NOT need to watch. (the rest is interesting and you see several of the concepts from Ch 3 & 4 so when you have time 😊 )

Pike's Talk: <https://blog.golang.org/concurrency-is-not-parallelism>

Talk slides: <https://talks.golang.org/2012/waza.slide#1>

- a) Please answer the question *"Is it possible to have concurrency but not parallelism"*.
- b) How would Pike answer the question **"Why is it important to think of problems and their solutions in a concurrent way and not in a parallel way"**? So, why is that approach better even if the solution eventually ends up being executed in parallel?