CSE 262: Quiz #5  
Due Nov 20th, 2022 at 11:59 PM

The quiz has TWO questions. Please submit your answer by adding a file named <<your username>>\_q5.pdf to the quizzes folder of your Bitbucket account (e.g., mfs409\_q5.pdf), and then committing and pushing. You should use as much space as you want for each answer. Please be detailed in your answers. Remember: this quiz is worth 9% of your grade.

**Question 1:** While we discussed the importance of language-level support for *concurrency*, it is not as clear that language support for *parallelism* is necessary. Investigate the Intel Threading Building Blocks library (Intel TBB, now part of Intel OneAPI). Is it satisfactory for enabling easy access to multiple cores? Be sure to justify your answer. You might want to look into how TBB was affected by the changes in C++11, especially C++11’s lambdas.

**Question 2:** The Node.js framework for writing server-side JavaScript relies heavily on nested callbacks. This has led to something often called “callback hell”. How has JavaScript changed to remedy this problem? What are the strengths and weaknesses of these changes?