DS 221 **Assignment 3** **due 2 Sept 2022 (5 marks)**

Matrix Multiplication in C

Program: The ijk triply nested for loop matrix multiplier from class. Assume 256x256 float matrices (or square matrix sizes that are larger powers of 2 and feasible). Add functions to generate the input matrices and verify the correctness of matrix multiplication.

Objective: Find out which, if any, of the loop optimizations that we looked at in class (loop interchange, loop unrolling, loop tiling, vectorization) can be done using the compiler command line options available to you. Learn how to use each of these optimizations. Determine the combination of command line options that results in the fastest matrix multiplication.

Submit: A typed report (pdf) describing what you tried and what you discovered, including relevant details of the compiler + computer used and measured execution times

Submission: Submit your answers before midnight on the due date by uploading to Teams a single PDF file. The name of the file should be of the form Assg3Firstname.pdf. For example, in my case the file name would be Assg3Matthew.pdf