Question Two

Ethan Leet

Griffith University Gold Coast

School of Information Technology

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Overview

In this assignment we were tasked to solve six numerical algorithm problems. In each problem c++ code was to be produced as well as graphs explaining the results for some problems. The contents of this report includes a brief overview of each problem followed by an in depth analysis of the algorithm used to solve the problem as well as a discussion of the results.

Each problem was compiled successfully without errors or warnings using clang++ and c++ standard version 14 with the -O3 optimisation flag. Each problem can be compiled individually or the project can be compiled as a whole using CMake. To compile a program individually, navigate to the appropriate folder and execute the ‘make’ command, the program can then be run by executing ‘./questionx’ where ‘x’ is the question number. Alternatively, the ‘make’ command can be executed from the parent folder, this will compile all problems for this assignment with the beforementioned settings and place the binaries inside the appropriate question folder. Programs can also be compiled via the command line using the below command. Any additional arguments required for compilation or command line arguments needed for run time will be mentioned in the readme.md file and as a comment at the start of each program.

‘clang++ question.cpp -std=c++14 argx -o questionx -O3’

‘./question argx’

Question One

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