ENCE464 Assignment 2

Roadrunner, Wiley Coyote, and Foghorn Leghorn Group 42

Note, please do not write as a conventional report with intoduction, method, results, discussion, conclusion. Instead use the following headings, with a page per section.

1 Architecture overview

Here you should describe your computer's architecture (such as the cache organisation, memory size, CPU model, etc.).

2 Multithreading

Here you should analyse and discuss how your program takes advantage of multiple cores.

3 Cache

Here you should analyse how your program makes optimal use of the cache.

4 Profiling

Here you should analyse which parts of the program take the most time. Cache profiling should be discussed in the Cache section.

5 Compiler optimisation

Here you should provide your analysis of compiler optimisation options.

6 Individual section 1 (Roadrunner)

The individual sections are to be written individually and should address an aspect of computer architecture related to the assignment. For example, using SIMD instructions, using the GPU, comparing two different computers, analysing branch prediction, optimisation, caching etc. in more detail. The topics must be unique per group.

7 Individual section 2 (Wiley Coyote)

8 Individual section 3 (Foghorn Leghorn)

Instructions

1. The reports can be created in Word or LaTeX. Use the appropriate template but delete the instructions.

2. Delete all the instructions in blue.

3. Each section starts on a page and cannot be longer than a page.

4. The page limit is eight pages. No title pages please. We will deduct 10% for every page over the page limit. Do not squeeze the margin or use small fonts.

5. Ensure your names and group number are in the title block.

6. Submit your reports as a PDF document through Learn. We will deduct 10% for non PDF documents.