UNIVERSITY OF LINCOLN

# CMP3752 Parallel Programming, Assessment Item 1

| Learning Outcome | Criterion | Pass | 2:2 | 2:1 | 1st |
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| [LO1] demonstrate practical skills in applying parallel algorithms for solving computational problems; | Code implementation (70%) | Working histogram equalisation program developed, providing basic functionality based on atomic functions, fixed histogram size, and working with the provided grayscale images. The memory transfer and kernel execution times are reported.<br><br>Coding style is readable. | Working histogram equalisation program developed, providing basic functionality with some attempt at parallel optimisation (e.g. scan, histogram) and a subset of additional features (e.g. colour images). The performance of the program is reported.<br><br>Clear coding style with some code comments. | Well-developed histogram equalisation program developed, providing a successful implementation of an optimised parallel pattern, including additional features (e.g. variable bin number). The performance of the program is clearly reported and communicated to the user.<br><br>Clear and well-commented code. | Excellent implementation featuring multiple optimised parallel patterns, extended functionalities, and aspects not covered in the module (80+). Program performance is clearly reported and communicated to the user in detail.<br><br>The code is optimised, efficient, well-structured and well-commented. |
| [LO3] analyse parallel architectures as a means to provide solutions to complex computational problems. | Executive summary (30%)<br><br>A detailed and critical discussion on appropriate methods of | Your discussion is missing or is brief and lacking critique.<br><br>No suitable graphs or tables are provided for supporting discussion. | Your discussion is clear but may be mostly descriptive in nature.<br><br>Suitable graphs or tables are provided but may not effectively support discussion. | Your discussion is clear, detailed, and contains some critical discussion.<br><br>Suitable graphs or tables are provided that | Your discussion is clear, detailed, and consists of a well-written and critical discussion.<br><br>Suitable graphs or tables are provided that |

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| | algorithm selection. | | | effectively support discussion. | effectively support critical discussion. |
| **Weighting** | The single criterion for this assessment is weighted as indicated. | | | | |