MONASH University

STUDENT'S NAME:	
ID NO:	
UNIT CODE AND TITLE:	FIT3143 PARALLEL COMPUTING
SEM/YEAR:	2/2019
CAMPUS:	CLAYTON/MALAYSIA
ASSIGNMENT 1 - DEMONSTRATION WITH Q&A (10 MARKS)	
ASSESSOR:	
DATE:	TIME:

PART A: ASSIGNMENT DEMONSTRATION

	Criteria	Marks	0 (Unacceptable)	1 (Weak)	2 (Satisfactory)	3 (Good)	4 (Excellent)	Rating Awarded by Assessor (1 - 4)	Scaled marks	Comments
1	Parallel code compilation using MPICC	1	No code to compile	Unable to compile the code with errors	Able to compile the code with more than 5 warnings	Able to compile the code with less than 5 warnings	Able to compile the code with no warnings		0	
2	Parallel code functionality using MPIRUN with *N* number of processors (as determined by the assessor) : Mandelbrot image generation	2	No program to execute	Unable to generate a Mandelbrot image based on the implemented parallel partitioning scheme, or the generated image is very poor in quality	Able to generate a Mandelbrot image based on the implemented parallel partitioning scheme, but with noticeable image defects.	Able to generate a Mandelbrot image based on the implemented parallel partitioning scheme with minor image defects .	Successfully generates a complete Mandelbrot image based on the implemented parallel partitioning scheme without any image errors or defects		0	
3	Parallel code functionality using MPIRUN with *N* number of processors (as determined by the assessor) : Performance	2	No program to execute	Speed up < 1	1 < Speed up < 2	2 < Speed up < 4	Speed up > 4		0	
4	Parallel code functionality using MPIRUN with *N* number of processors (as determined by the assessor) : Performance scalability [a]	1	No program to execute	Speed up remains less than 1 when tested with different numbers of logical processors	A moderate sub-linear speed up is observed for an increasing number of logical processors.	A good sub-linear speed up is observed for an increasing number of logical processors.	An excellent or linear speed up is observed for an increasing number of logical processors.		0	
Sub-Total (6 marks)									0	

a **A baseline multi-core specifications and number of logical processors to be used will be provided by the assessor/lab tutor to students prior to the assignment submission deadline. This would allow to students to validate and/or improve the speed up before the assignment demonstration.**

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	PART B:Q&A									
	Criteria	**Marks**	**0 (Unacceptable)**	**1 (Weak)**	**2 (Satisfactory)**	**3 (Good)**	**4 (Excellent)**	**Rating Awarded by Assessor (1 - 4)**	**Scaled marks**	**Comments**
1	Describing the applied method or technique to mimic the pendulum's direction in real time including determining the initial direction based on code or algorithm description.	4	The student has not prepared, cannot answer event the most basic questions and likely has not even seen the code before.	The student may have seen the code before and can give some very basic answers. However, the student clearly can't engage in a serious discussion of the code and demonstrates a poor understanding of the parallel algorithm/code	The student may have seen the code before and can give answers that are partially correct but he/she clearly can't engage in a serious discussion of the parallel algorithm/code	The student is reasonably well prepared and can consistently provide answers that are mostly correct. The student may lack confidence or speed in answering.	The student has clearly prepared and understands the code. The student can answer questions correctly and concisely with little to no prompting.		0	
Sub-Total (4 marks)									0	
Total (10 marks)									**0**	