COMP3520 Operating Systems Internals Assignment 1 Part 2 Marking Scheme

Discussion Document

Each question is allocated a set number of points, reflecting its relative importance. The total number of points that you obtain determines your Assignment 1 discussion document mark.

Question 1

Criteria	Points
• Explains the purpose of a condition variable	1
• Performance does not meet the criteria above	0

Question 2

Criteria	Points
• Provides a valid explanation on why calling *pthread_cond_wait()* in the context of the question is an error	1
• Performance does not meet the criteria above	0

Question 3

Criteria	Points
• Describes, in detail, ONE plausible scenario where it is reasonable to use the *pthread_cond_timedwait()* function • Provides adequate justification	3
• Describes ONE plausible scenario where it is reasonable to use the *pthread_cond_timedwait()* function AND • Provides some justification OR • Describes, in detail, ONE plausible scenario where it is reasonable to use the *pthread_cond_timedwait()* function AND • Provides minimal justification	2
• Outlines ONE plausible scenario where it is reasonable to use the *pthread_cond_timedwait()* function • Provides minimal justification	1
• Performance does not meet the criteria above	0

Question 4

Criteria	Points
• Thoroughly describes, in English and pseudocode, the algorithms that are used to deal with the synchronization issues on teacher-students coordination in the Group Lab Exercise problem • Provides detailed justification of the algorithms	9
• Provides a detailed description, in English and pseudocode, of the algorithms that are used to deal with the synchronization issues on teacher-students coordination in the Group Lab Exercise problem • Provides sound justification of the algorithms	7
• Provides an adequate description, in English and pseuocode, of the algorithms that are used to deal with the synchronization issues on teacher-students coordination in the Group Lab Exercise problem • Provides some justification of the algorithms	5
• Provides a limited description, in English and/or pseudocode, of the algorithms that are used to deal with the synchronization issues on teacher-students coordination in the Group Lab Exercise problem	3
• Outlines, in English and/or pseudocode, some aspects of the algorithms that are used to deal with the synchronization issues on teacher-students coordination in the Group Lab Exercise problem	1
• Performance does not meet the criteria above	0

Question 5

Criteria	Points
• Provides a detailed description of the methods that are used to debug the program to solve the Group Lab Exercise problem • Provides and explains relevant input data, the resulting output of the program and the expected output for a representative range of test cases	6
• Provides an adequate description of the methods that are used to debug the program to solve the Group Lab Exercise problem • Provides and explains relevant input data, the resulting output of the program and the expected output for some test cases	4
• Provides a limited description of the methods used to debug the program to solve the Group Lab Exercise problem • Provides relevant input data, and the resulting output of the program or the expected output for some test cases	2
• Provides relevant input data, the resulting output of the program or the expected output for one or more test cases OR • Makes general statements about debugging in the context of multithreaded programs or the Group Lab Exercise problem	1
• Performance does not meet the criteria above	0