

Homework 18

(30 points)

Table 1

Task Number	Resources Accessed
1	A
2	B, C
3	C
4	A, B, C

1. Given the resource requirements shown in Table 1, what is the contention of each shared resource in the system? (2 points)

2. Given the resource requirements shown in Table 1, what is the contention of each task in the system? (2 points)

Table 2

Task Number	Resources Accessed
1	A, C
2	D
3	B, E
4	C
5	B
6	A, C
7	D
8	C
9	D, E
10	A

3. Given the resource requirements shown in Table 2, what is the contention of each shared resource in the system? (5 points)

4. Given the resource requirements shown in Table 2, what is the contention of each task in the system? (5 points)

5. For Task 1, Task 5, and Task 9 shown in Table 2, compute the maximum blocking under the uniform C-RNLP if the given task were the highest priority task. Assume a 24-core system in which $\delta_{\text{MAX}} = 45$ microseconds. (6 points)

6. Based on the introduction and conclusion given on Sakai in the file bigLITTLE.pdf, write an abstract for this paper. Point out at least two contributions of the paper, and give some context for the work (why the work is interesting, relevant to current developments in the field, newly enabled by prior work, etc.). Do not reference this paper's published abstract, but feel free to look at abstracts of the papers posted on Sakai as a guide. (10 points)

Feedback

1. How much time did you spend completing this assignment (ignoring interruptions)?
2. Any other feedback?