**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 1: Computation Across the Curriculum**

**Lesson 5: Why Parallel Programming?**

**Sample Assessment**

*Developed by Colleen Heinemann for the Shodor Education Foundation, Inc.*

Answer the following questions after completing the GalaxSee lab.

1. (a) Explain what the concept of “better, faster, more” is; (b) Explain what “more is not always better” means. Provide example applications, if necessary, to explain your answer.

2. What is a parameter sweep? Why might a parameter sweep be useful?

3. Are there instances where parallelism might actually be more harmful than more useful? Provide at least 1 example to back up your argument.

4. Based on the GalaxSee lab, provide an explanation of what you learned about parallelism and its uses. What results did you expect to see before you began? Did the results that you got confirm your thoughts or were the results different from what you expected? Why do you think this is the case?

5. Do you believe that all scientific problems will provide similar results to those of GalaxSee? Why or why not? Justify your answer with additional examples.



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