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

**Unit 2: Parallel Computing Concepts**

**Lesson 2: Parallel Programming Patterns**

**Exercise Instructions for Students**

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*Browse and search the full curriculum at*[*http://shodor.org/petascale/materials/semester-curriculum*](http://shodor.org/petascale/materials/semester-curriculum)

*We welcome your improvements! You can submit your proposed changes to this material and the rest of the curriculum in our GitHub repository at*[*https://github.com/shodor-education/petascale-semester-curriculum*](https://github.com/shodor-education/petascale-semester-curriculum)

*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)

1. What are parallel patterns?
2. What pattern does embarrassingly parallel applications follow?
3. What is pipelining?
4. Describe the divide and conquer pattern.
5. What is the difference between task and data parallel programs?