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

**Unit 5: MPI**

**Lesson 1: Introduction to MPI**

**Exercise Instructions for Students**

*Developed by Nitin Sukhija for the Shodor Education Foundation, Inc.*

1. What are different types of Parallel Computer Memory Architectures?
2. Describe MPI API?
3. What are the advantages and disadvantages of using MPI?
4. Name some Minimal Set of MPI Routines.
5. What is the programming model of MPI?
6. Explain communicators, broadcasting, reduction in MPI.
7. Describe Non-Blocking Communication.



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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)