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

**Unit 7: CUDA**

**Lesson 6: CUDA Atomic Functions**

**Sample Assessment**

*Developed by Sanish Rai for the Shodor Education Foundation, Inc.*



*Except where otherwise noted, this work by The Shodor Education Foundation, Inc. is licensed under CC BY-NC 4.0. To view a copy of this license, visit*[*https://creativecommons.org/licenses/by-nc/4.0*](https://creativecommons.org/licenses/by-nc/4.0)

*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)

* What is the problem when multiple threads are trying to use a particular memory location?
* Give some examples of data access conflict with multiple threads.
* Define atomic functions.
* What are the advantages and disadvantages of atomic functions?
* What are some other methods to solve read-write-modify conflict?