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

**Unit 9: Optimization**

**Lesson 1: Cache Efficient Matrix Multiplication**

**Sample Assessment**

*Developed by* *Paul F. Hemler for the Shodor Education Foundation, Inc.*



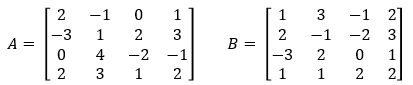
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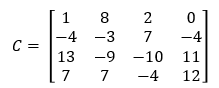
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Given the following two matrices,



1. What is the product C = AB?

Hint:



1. Transpose B and find the product by multiplying the rows of A with the rows of B. Did you get the same result as in question 1?
2. Perform block matrix multiply using 2 X 2 blocks. DId you get the same result as in question 1 and 2?