

**CMSC 643**  
**HOMEWORK 5**

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1. READING ASSIGNMENT

- Listen to Berlioz's *Symphonie Fantastique*
- Read <http://arxiv.org/pdf/quant-ph/0010040.pdf>

2. HOMEWORK

- (1) Read section 6 of the above paper on Grover's algorithm. Then use Mathematica to run a simulation of Grover's algorithm for  $N = 2^n = 16$  records to search for an unknown record with the unknown record label  $x_0 = 13$ . Do NOT use OpenQuacks.