# Quantum Computing:
# An Applied Approach

## Chapter 4 Problems:
## Complexity Theory

1. Prove that the discrete log problem and the factoring problem are isomorphic.
2. What are the arguments for and against the case that the problem of graph isomorphism is in NP. If not, which class does it belong in?
3. What problem did Ewin Tang demonstrate can be solved classically faster than previously thought in the paper https://arxiv.org/pdf/1807.04271.pdf?
   (a) What was Tang's strategy in "dequantizing" the quantum algorithm?
   (b) Are there other problems that may be open to classical speedup?

   The blog post by Tang may be useful as well: https://ewintang.com/blog/2019/01/28/an-overview-of-quantum-inspired-sampling/