Lecture 2: Materials, April 18th

NP-Hardness

1. **Announcement**
   We are going to have a quiz on May 30th and an examination on July 11th. Please e-mail me at vorapong@is.s.u-tokyo.ac.jp before April 19th, if you cannot attend of them.

   The quiz and examination will be in the same style as my course on last semester (http://www.vorapong-sup.net/NetOpt2016.html). There will be 3 problems and you have to solve them in 90 minutes.

   We will have no class on May 16th, and we will stay at Sci. 7 #214 until further announced.

2. **Simplex Algorithm**
   I have discussed about the Simplex algorithm on last week without any given any reference. More detail about the algorithm can be found at the following link:
   http://mat.gsia.cmu.edu/classes/QUANT/NOTES/chap7.pdf

3. **NP-Hardness**
   The best reference for the NP-hardness is the following book. I do recommend everyone to read Chapter 1 of the book.
   Garey and Johnson, "*Computers and Intractability: A Guide to the Theory of NP-Completeness*", W H Freeman & Co (Sd), 1979.

4. ***k*-Most Marketable Product Problem**
   The problem, together with an NP-hardness proof, can be found in the following paper.
   Xu and Lui, "*Product Selection Problem: Improve Market Share by Learning Consumer Behavior*", Proceedings of the 20th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD' 14), pages 851-860, 2014.

5. **Top *k*-representative Skyline Product**
   The problem, together with an NP-hardness proof, can be found in the following paper.
   Lin, Yuan, Zhang, and Zhang, "**Selecting stars: The k most representative skyline operator**", Proceedings of the 23th IEEE International Conference on Data Engineering (ICDE' 07), pages 86-95, 2007.