Homework number One

- You have two weeks to complete this homework
- You can choose one of three possibilities
  - 1. Programming.
  - 2. Theory.
  - 3. Reading and presenting.

In case you selected programming option

- Your task is to write a program in any language of your choice that will implement any algorithm presented in the class, such as:
  - 1. Set covering (unate covering)
  - 2. Solving Boolean equations
  - 3. Solving Petrick Function
  - 4. Graph Coloring
  - 5. Maximum Clique
  - 6. Covering a graph with cliques
  - 7. Partitioning into cliques
  - 8. Any algorithm from Chapter 2 of the Micheli book

In case you selected reading option

- Your task is to find on internet or in KAIST library a paper published after 1995 that is related to any of the combinational optimization problems presented in the class and present this paper in a class using PPT or other presentation tool in English.
  - 1. Set covering (unate covering)
  - 2. Solving Boolean equations
  - 3. Solving Petrick Function
  - 4. Graph Coloring
  - 5. Maximum Clique
  - 6. Covering a graph with cliques
  - 7. Partitioning into cliques
  - 8. Any algorithm from Chapter 2 of the Micheli book

In case you selected theory option

- Your task is to <u>create your own algorithm</u> for some general or <u>specific</u> task related to the material from the class such as combinational optimization problems.

- You have todescribe your work in English, but you will be not requested to present it in the class.

- Any of the topics above as well as anything from Chapters 1 and 2 of the Micheli's book.

- You can contact me by email or in person about other research issues. They can lead to journal and conference publications. Some of them are easy to explain, like graph coloring, but nobody knows good algorithms for them. I will present some of them also on Friday.