**503040 - Topics for presentation and report**

**Choose one of the following TOPICS**  
(from your text book and other references:  
Introduction to design and analysis of algorithms by Levitin…)  
  
1.    Design and analysis of algorithms for solving the Subset sum problem  
2.    Design and analysis of algorithms for solving Longest common subsequence problem over multiple sequences  
3.    Design and analysis of algorithms for finding Shortest common supersequence over multiple sequences  
4.    Design and analysis of algorithms for the Knapsack Problem  
5.    Design and analysis of algorithms for the Traveling Salesman Problem

Plan for doing research on the chosen topic:

1. Choose partners for your group. You are allowed to team up to 3 students (groups of one, two or three students)
2. Study the topic in the textbook to have some idea about the problem. Unfortunately, the textbook is not state-of-the-art. Further study a scientific article dedicated to solving the problem.
3. Go to site <https://scholar.google.com/>
4. Search for the problem (for example, “Subset sum problem”)
5. From the list of papers from 2019, choose one which you are interested in and study it in details. Before you study the article, ask for your teacher approval on the chosen article.
6. Implement as many as possible algorithms presented in the article, at least you should implement the main algorithm.
7. Using the rubric to prepare the presentation/report.