**503040 - Topics for presentation and report**

**Pick one of the following TOPICS (to better understand the topic, read the papers attached, your algorithms should be based on works from 2022 on scholar.google.com) using the remainder of the sum of length of your first names / 3. For example: Group of TùngPhátDuy: remainder of (4 + 4 + 3)/3 = 2 picks topic 2**  
  
0.    Design and analysis of algorithms searching for Top-K periodic high-utility itemsets with both positive and negative utilities  
1.    Design and analysis of algorithms interactively searching for Top-K high-utility itemsets from uncertain data  
2.    Design and analysis of algorithms searching for Top-K High-Utility itemsets from unstable databases with both positive and negative utilities