

What is this course about?

- Introductory course for theoretical computer science.
 - At a high level, we can divide TCS into two main topics, the complexity theory and the algorithms theory.
 - **The Algorithms Theory:** aims to show that various computational tasks can be solved efficiently.
 - **The Complexity Theory:** aims to show that there exist computational tasks which cannot be solved efficiently.

What is this course about?

- For the first part of this semester, we will deal with **Algorithms Theory**.
- We will see that lots of computational tasks can be solved efficiently and there are several common techniques for solving those computational tasks such as
 - Divide-and-Conquer
 - Graph Traversal
 - Greedy algorithms
 - Dynamic Programming
 - Linear Programming

What is this course about?

- For the first part of this semester, we will deal with **Algorithms Theory**.
- The main focus of this course is **the analysis of algorithms**:
 - Correctness analysis & Time complexity analysis

What is this course about?

- For the second part of this semester, we will deal with **Complexity Theory**.
- We will see that not all computational tasks are likely to admit efficient algorithms.