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Overview of Module 2

Module 2 introduces dynamic programming, an important algorithm design methodology for solving problems where a sequence of decisions need to be made in order to maximize or minimize an objective function.

- We will introduce the concept of dynamic programming using a simple example of the "rod cutting problem".
- We will see that dynamic programming uses a step-by-step approach that involves making a recurrence, memoizing the recurrence and extracting the solution.
- We will study related problems such as the coin changing problem and the famous knapsack problem, which has numerous applications.
- Finally, we will study the longest common subsequence problem which is commonly used in computational biology applications such as gene sequence alignment.

Assignments

We will have quizzes after most of the lessons in this module. These quizzes are choose the correct answer style and you will have unlimited attempts to solve them/get them right.

Programming Assignment

We will have a programming assignment that will help you approach the development of algorithms related to what we study in this module.

✓ **Completed**

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