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Overview of Module 3

Welcome to module 3. In this module, we will present an interesting and important concept called the spanning tree of a graph. We will present Kruskal's algorithm for finding spanning trees in a graph efficiently and present a data-structure called union-find data-structure for maintaining disjoint sets. We will also study a concept called amortization that allows us to collectively analyze the worst case running time of a group of data-structure operations rather than single operations in isolation.

After each lesson, we have multiple choice quizzes and a programming assignment that will focus on spanning trees and union-find operation. We will perform an exploration of spanning trees and strongly connected components for what is called "topological data analysis". Here we will define graphs over images and see how these structures in a graph can inform us about the composition of the image.

Completed

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