Segment Trees

William Fiset

Outline

- **Discussion & examples**
  - What is a Segment Tree?
  - When and where is a Segment Tree used?
  - Complexity Analysis
- **Implementation details**
  - Segment tree construction
  - Segment tree queries and updates
  - Lazy propagation
  - Coordinate compression
- **Code Implementation**

Discussion and Examples

Part x/y

William Fiset

What is a Segment Tree?

A **Segment Tree** is a tree based data structure that supports a variety of efficient range updates and queries including min, max and sum to name a few.

When and where is a DSNAME used?

Complexity

Last Videos: DSNAME Introduction

DSNAME

Implementation details

Part x/y

DSNAME Implementation follows in later video

Implementation source code
and tests can all be found
at the following link:

github.com/williamfiset/data-structures

DSNAME
Source Code

Part y/y

William Fiset

Last Videos: DSNAME implementation details

Source Code Link

Implementation source code
and tests can all be found
at the following link:

github.com/williamfiset/data-structures

NOTE: Make sure you have understood the
previous video sections explaining how a
DSNAME works before continuing!