Assignment-2-traffic-control



Coded by:

Tygo Geervliet

Student Number: 500897270

Santosh Kakkar

Student Number: 500904843

# Seven relevant methods

## Violations

Afbeelding met tekst, schermopname, software, Lettertype

Automatisch gegenereerde beschrijving

This method combines two violations into a new violation while adding their offencesCount and nullifying attributes (car and city) that do not match between the two violations.

## Traffic Tracker

Afbeelding met tekst, schermopname, Lettertype

Automatisch gegenereerde beschrijving

This method recursively explores a directory structure, looking for traffic data files. It gathers and combines the traffic offenses from these files into the `violations` list. This enables it to handle a set of traffic data files and calculate the overall count of offenses in a nested directory structure.

## OrderdArrayList

Afbeelding met tekst, schermopname, software, Besturingssysteem

Automatisch gegenereerde beschrijving

This method efficiently searches for an item within the sorted section of a list using a binary search algorithm. It leverages recursion to divide the search range in half with each iteration, which is more efficient than linear search for large sorted lists.

Afbeelding met tekst, schermopname, software, Multimediasoftware

Automatisch gegenereerde beschrijving

This method first attempts to find the searchItem within the sorted section of the list by calling the recursiveBinarySearch method. This method performs a recursive binary search within the range of indices from 0 to nSorted - 1.

If the searchItem is not found in the sorted section (indicated by index being -1), the method proceeds to perform a linear search in the unsorted section of the list. It iterates through the list from index nSorted to the end of the list (size() - 1) and checks each item using the sortOrder.compare method. If the comparison results in 0 (indicating a match), it returns the index where the item was found. This method allows you to find items in a list. If it can't find the item in the sorted section, it switches to a slower but thorough search in the unsorted part.

Afbeelding met tekst, schermopname, Lettertype, software

Automatisch gegenereerde beschrijving

This method conducts a search in a sorted list section, employing the given `sortOrder` for item comparisons. If it finds a match, it provides the item's index. If no match is found within the sorted section, it returns -1, indicating that the item isn't present in this section of the list.

Afbeelding met tekst, elektronica, schermopname, software

Automatisch gegenereerde beschrijving

This method allows you to merge a new item with an existing item in the list if a match is found based on the sorting order. If no match is found, it addes the new item to the list.

## Detection

Afbeelding met tekst, schermopname, software

Automatisch gegenereerde beschrijving

Thismethod parses a text line representing a car detection event, ensures the presence of required components, searches for an existing car or creates a new one, and constructs a Detection object with the relevant information. If the text line is incomplete or corrupt, it returnes null.