Name Sorter Technical Documentation

Overview

*The Name Sorter program is designed to read a text file containing names, sort them alphabetically by last name, and then by any given names. This technical document provides an insight into the functionalities, structure, and usage of the Name Sorter application.*

Table of Contents

[1. Introduction 1](#_Toc1712364590)

[2. Usage 1](#_Toc286046091)

[3. Functionality 2](#_Toc1115113060)

[4. Code Structure 2](#_Toc989436408)

[5. Error Handling 2](#_Toc494116148)

[6. XML definition 3](#_Toc1576839218)

[Conclusion 4](#_Toc2025967286)

# 1. Introduction

The Name Sorter application is developed in C# and utilizes basic file I/O operations along with string manipulation to sort a list of names. It reads names from a specified input file, sorts them, displays the sorted list on the console, and then saves the sorted list into a new text file.

# 2. Usage

To use the Name Sorter application, follow these steps:

* Ensure you have the .NET runtime installed on your system.
* Compile the provided C# code into an executable.
* Run the executable with a single argument, which should be the path to the input text file containing unsorted names.

Example usage:



# 3. Functionality

Upon execution, the program performs the following actions:

* Validates the input arguments. It expects only one argument, which is the path to the input text file.
* Reads the names from the input file into a list.
* Sorts the list alphabetically by last name and then by any given names.
* Displays the sorted list on the console.
* Saves the sorted list into a new text file named "sorted-names-list.txt".

# 4. Code Structure

The code consists of the following key components:

* **Main Method**: Entry point of the application. It validates input arguments, generates the list of names, sorts the list, and performs display and save operations.
* **generateList Method**: Reads names from the input file and returns a list of names.
* **sortList Method**: Sorts the list of names alphabetically by last name and then by any given names.
* **displaySortedList Method**: Displays the sorted list on the console.
* **saveSortedList Method**: Saves the sorted list into a new text file.

# 5. Error Handling

The program handles exceptions gracefully by providing informative error messages. It catches and logs any exceptions that occur during file operations, sorting, display, or saving processes. If an error occurs, it continues to execute subsequent steps and does not terminate abruptly.

# 6. XML definition

<?xml version="1.0"?>  
<**doc**>  
    <**assembly**>  
        <**name**>name-sorter</**name**>  
    </**assembly**>  
    <**members**>  
        <**member** name="T:Name\_Sorter.Program">  
            <**summary**>  
            Gets a text file containing names and sort the name into a list.  
              <**br** />  
            </**summary**>  
        </**member**>  
        <**member** name="M:Name\_Sorter.Program.Main(System.String[])">  
            <**summary**>  
            Defines the entry point of the application.  
            </**summary**>  
            <**param** name="args">This application accepts only one argument the Input file</**param**>  
        </**member**>  
        <**member** name="M:Name\_Sorter.Program.generateList(System.String)">  
            <**summary**>  
            Generates the list.  
            </**summary**>  
            <**param** name="inputFile">The input file.</**param**>  
            <**returns**>  
            Generates a list of names based on the data on the input file  
            </**returns**>  
        </**member**>  
        <**member** name="M:Name\_Sorter.Program.sortList(System.Collections.Generic.List{System.String})">  
            <**summary**>  
            Sorts the list.  
            </**summary**>  
            <**param** name="Nameslist">List of the names</**param**>  
            <**returns**>  
            a sorted list of names  
            </**returns**>  
        </**member**>  
        <**member** name="M:Name\_Sorter.Program.displaySortedList(System.Collections.Generic.List{System.String})">  
            <**summary**>  
            Displays the sorted list on the screen.  
            </**summary**>  
            <**param** name="SortedNameslist">list of sorted names.</**param**>  
        </**member**>  
        <**member** name="M:Name\_Sorter.Program.saveSortedList(System.Collections.Generic.List{System.String})">  
            <**summary**>  
            Saves the sorted list.  
            </**summary**>  
            <**param** name="SortedNameslist">List of sorted name.</**param**>  
        </**member**>  
    </**members**>  
</**doc**>

# Conclusion

The Name Sorter application offers a simple yet effective solution for sorting a list of names. It demonstrates fundamental file I/O, string manipulation, and error handling techniques in C#.