

Introduction

Welcome to assignment 6, in this assignment you are tasked with implementing a product management system program.

Assignment Instructions:

- The product management system stores product names in an array of strings called `products` defined in `main.c`, this will act as the list holding all the product data during the lifespan of the application.
- Your task is to implement the following functions to expose to the main program core functionalities of a product management system such as:
 - The ability to add a product to the catalog
 - The ability to display what is in the product catalog
 - The ability to search for a product in the catalog
 - The ability to remove a product from the catalog
- The implementation detail for the product management system can be found in the `products.h` file.

AddProductName Function

This function adds a product to the list of products:

- It checks if the `MAX_PRODUCTS` have been added already before adding the new product to the list

DisplayProductNames Function

This function sorts the products (in lexicographical order) and prints them

- Sorts the products in lexicographical order (dictionary order)
- Iterates over the list, printing all the product names
- If there are no products in the list, it prints `No product names available.`

SearchProductName Function

This function searches the list for the product

- Iterates over the list to find the product that matches the search name
- Prints `<searchName> not found.` otherwise

RemoveProductName Function

This function removes a product by name from the list of products

- Iterates over the list and removes the product name when it finds it
- Prints `Product name not found. No removal performed.` if not found

Note:

- `MAX_PRODUCTS` is the maximum number of products the system can store

- `MAX_NAME_LENGTH` is the maximum number of characters each product name have have

Requirements

1. Fill in the missing code snippets labelled in the following sections of this document
2. Only modify code in the file `products.c`
3. Test your code against the sample outputs in the `sample-output` directory, the file `!run.bat` will compile and execute you code, followed by diffing the outputs generated from the different tests in the suite.

Running the Application

Running the first test in the suite manually:

```
gcc -Wall -Wextra -Wconversion -Werror -pedantic -o main.exe main.c products.c  
file.c  
main.exe tests/test_1.txt
```