Introduction

In this assignment you are tasked with creating a Credetials Management System (CMS) using **File I/O** in C programming.
A CMS is useful for handling user credentials, especially in the context of a larger online platform such as online stores, web services etc.

In our version of a simple CMS, it will be able to perform the following tasks:

1. Store a credential
2. Display all credentials
3. Modify a user's password
4. Clear all stored credentials

The CMS application should store all credentials data in a binary file.

Structure Layouts

In our CMS, we will only store a user's username and password and C strings.

```
typedef struct _Credentials
{
    char username[50];
    char password[50];
} Credentials;
```

CMS Functions

StoreCredentials

- Function to store credentials in the binary file
- Takes in a pointer to a `Credentials` struct as the new user credentials to store
- Writes the credentials data to a binary file

DisplayCredentials

- Function to display stored credentials from the binary file
- Loops through all the data in the credentials binary file, printing them out
  Format:

```
Username: James
Password: password123

Username: Gordon
Password: 6password9
```

ModifyPassword

- Function to modify the password for a given username
- Takes in a `const string username` as the key, and a `const string new password`
- Gets the desired user credentials entry in the Credentials binary file and changes the password to the new password

ClearCredentials

- Function to clear the credentials binary file
- Clears all data from the credentials binary file

Requirements

1. You are tasked with creating and implementing the `credentials.h` and `credentials.c` files which declares and defines the CMS logic described in the above section.
2. You are allowed to use any techniques/programming patterns previously discussed in our lessons in your implementation.
3. Run the `!run.bat` file to run the suite of tests to test your Hash Table implementation.
4. You are to ensure that there are no memory leaks in your final program submission.
5. You are to use a binary file to store all the credentials data.