Project Documentation

Overview

This project consists of a game shop management system implemented in C. It provides functionalities to add games to a database, buy games, sort the database by revenue, print the database to the console, save the database to a file, and load the database from a file.

Files

- `project.h`: Header file containing function prototypes and structure definitions.

- `main.c`: Main C file containing the implementation of the functionalities.

- `README.md`: Documentation file explaining how to use the program.

Functions

1. **addGame**

   - Description: Adds a new game to the database if it doesn't already exist.

   - Parameters:

     - `gameShop *shop`: Pointer to the database of games.

     - `char *name`: Name of the game to add.

     - `float price`: Price of the game.

   - Returns: Updated pointer to the database after adding the game.

2. **buyGame**

   - Description: Allows purchasing a game from the database by incrementing the revenue of the game.

   - Parameters:

     - `gameShop *shop`: Pointer to the database of games.

     - `char *name`: Name of the game to buy.

     - `int count`: Number of copies of the game to buy.

   - Returns: Updated pointer to the database after purchasing the game.

3. **cmpfunc**

   - Description: Comparison function used for sorting the database by revenue in ascending order.

   - Parameters: `const void *a`, `const void *b`.

   - Returns: -1 if `a` has less revenue than `b`, 1 if `a` has more revenue than `b`, and 0 if revenues are equal.

4. **printDatabase**

   - Description: Prints the contents of the database to the console, sorted by revenue.

   - Parameters: `gameShop *shop`: Pointer to the database of games.

   - Returns: void.

5. **saveToFile**

   - Description: Saves the database to a file.

   - Parameters:

     - `gameShop *shop`: Pointer to the database of games.

     - `char *filename`: Name of the file to save the database to.

   - Returns: 1 on success, 0 on failure.

6. **loadFromFile**

   - Description: Loads the database from a file.

   - Parameters: `char *filename`: Name of the file to load the database from.

   - Returns: Pointer to the loaded database.

Usage

1. Compile the program using a C compiler (e.g., GCC): `gcc -o game_shop main.c`.

2. Run the compiled program: `./game_shop`.

3. Follow the prompts to add games, buy games, print the database, save the database to a file, load the database from a file, or quit the program.

Example

```c
#include "project.h"

int main() {
    // Initialize variables and structures
    // Perform operations using functions from project.h
    // Clean up memory
    return 0;
}
```

Dependencies

- Standard C libraries: `stdio.h`, `stdlib.h`, `string.h`.