**#include <stdio.h>**

**#include <stdlib.h>**

**#include <string.h>**

**#define MAX\_BOOKMARKS 100**

**#define MAX\_TITLE\_LENGTH 100**

**#define MAX\_URL\_LENGTH 200**

**#define MAX\_TAGS 5**

**#define MAX\_TAG\_LENGTH 30**

**typedef struct {**

**char title[MAX\_TITLE\_LENGTH];**

**char url[MAX\_URL\_LENGTH];**

**char tags[MAX\_TAGS][MAX\_TAG\_LENGTH];**

**int tag\_count;**

**} Bookmark;**

**Bookmark bookmarks[MAX\_BOOKMARKS];**

**int bookmark\_count = 0;**

**void add\_bookmark() {**

**if (bookmark\_count >= MAX\_BOOKMARKS) {**

**printf("Bookmark limit reached!\n");**

**return;**

**}**

**Bookmark new\_bookmark;**

**printf("Enter bookmark title: ");**

**getchar(); // clear newline**

**fgets(new\_bookmark.title, MAX\_TITLE\_LENGTH, stdin);**

**new\_bookmark.title[strcspn(new\_bookmark.title, "\n")] = 0; // remove newline**

**printf("Enter bookmark URL: ");**

**fgets(new\_bookmark.url, MAX\_URL\_LENGTH, stdin);**

**new\_bookmark.url[strcspn(new\_bookmark.url, "\n")] = 0; // remove newline**

**printf("Enter number of tags: ");**

**scanf("%d", &new\_bookmark.tag\_count);**

**for (int i = 0; i < new\_bookmark.tag\_count; i++) {**

**printf("Enter tag %d: ", i + 1);**

**getchar(); // clear newline**

**fgets(new\_bookmark.tags[i], MAX\_TAG\_LENGTH, stdin);**

**new\_bookmark.tags[i][strcspn(new\_bookmark.tags[i], "\n")] = 0; // remove newline**

**}**

**bookmarks[bookmark\_count++] = new\_bookmark;**

**printf("Bookmark added successfully!\n");**

**}**

**void view\_bookmarks() {**

**if (bookmark\_count == 0) {**

**printf("No bookmarks available.\n");**

**return;**

**}**

**for (int i = 0; i < bookmark\_count; i++) {**

**printf("Bookmark %d:\n", i + 1);**

**printf(" Title: %s\n", bookmarks[i].title);**

**printf(" URL: %s\n", bookmarks[i].url);**

**printf(" Tags: ");**

**for (int j = 0; j < bookmarks[i].tag\_count; j++) {**

**printf("%s", bookmarks[i].tags[j]);**

**if (j < bookmarks[i].tag\_count - 1) {**

**printf(", ");**

**}**

**}**

**printf("\n");**

**}**

**}**

**void search\_bookmarks() {**

**char query[MAX\_TITLE\_LENGTH];**

**printf("Enter search query (title or tag): ");**

**getchar(); // clear newline**

**fgets(query, MAX\_TITLE\_LENGTH, stdin);**

**query[strcspn(query, "\n")] = 0; // remove newline**

**int found = 0;**

**for (int i = 0; i < bookmark\_count; i++) {**

**if (strstr(bookmarks[i].title, query) != NULL) {**

**found = 1;**

**printf("Found in Title: %s\n", bookmarks[i].title);**

**printf(" URL: %s\n", bookmarks[i].url);**

**}**

**for (int j = 0; j < bookmarks[i].tag\_count; j++) {**

**if (strstr(bookmarks[i].tags[j], query) != NULL) {**

**found = 1;**

**printf("Found in Tag: %s\n", bookmarks[i].tags[j]);**

**printf(" Title: %s\n", bookmarks[i].title);**

**printf(" URL: %s\n", bookmarks[i].url);**

**}**

**}**

**}**

**if (!found) {**

**printf("No bookmarks found matching the query.\n");**

**}**

**}**

**void save\_bookmarks() {**

**FILE \*file = fopen("bookmarks.txt", "w");**

**if (file == NULL) {**

**printf("Error opening file for saving bookmarks.\n");**

**return;**

**}**

**for (int i = 0; i < bookmark\_count; i++) {**

**fprintf(file, "%s\n%s\n%d\n", bookmarks[i].title, bookmarks[i].url, bookmarks[i].tag\_count);**

**for (int j = 0; j < bookmarks[i].tag\_count; j++) {**

**fprintf(file, "%s\n", bookmarks[i].tags[j]);a**

**}**

**}**

**fclose(file);**

**printf("Bookmarks saved to bookmarks.txt\n");**

**}**

**void load\_bookmarks() {**

**FILE \*file = fopen("bookmarks.txt", "r");**

**if (file == NULL) {**

**printf("No saved bookmarks found.\n");**

**return;**

**}**

**while (!feof(file) && bookmark\_count < MAX\_BOOKMARKS) {**

**Bookmark new\_bookmark;**

**fgets(new\_bookmark.title, MAX\_TITLE\_LENGTH, file);**

**new\_bookmark.title[strcspn(new\_bookmark.title, "\n")] = 0; // remove newline**

**fgets(new\_bookmark.url, MAX\_URL\_LENGTH, file);**

**new\_bookmark.url[strcspn(new\_bookmark.url, "\n")] = 0; // remove newline**

**fscanf(file, "%d\n", &new\_bookmark.tag\_count);**

**for (int j = 0; j < new\_bookmark.tag\_count; j++) {**

**fgets(new\_bookmark.tags[j], MAX\_TAG\_LENGTH, file);**

**new\_bookmark.tags[j][strcspn(new\_bookmark.tags[j], "\n")] = 0; // remove newline**

**}**

**bookmarks[bookmark\_count++] = new\_bookmark;**

**}**

**fclose(file);**

**printf("Bookmarks loaded from bookmarks.txt\n");**

**}**

**int main() {**

**int choice;**

**load\_bookmarks();**

**do {**

**printf("\nBookmark Manager\n");**

**printf("1. Add Bookmark\n");**

**printf("2. View Bookmarks\n");**

**printf("3. Search Bookmarks\n");**

**printf("4. Save Bookmarks\n");**

**printf("5. Exit\n");**

**printf("Enter your choice: ");**

**scanf("%d", &choice);**

**switch (choice) {**

**case 1:**

**add\_bookmark();**

**break;**

**case 2:**

**view\_bookmarks();**

**break;**

**case 3:**

**search\_bookmarks();**

**break;**

**case 4:**

**save\_bookmarks();**

**break;**

**case 5:**

**printf("Exiting...\n");**

**break;**

**default:**

**printf("Invalid choice. Please try again.\n");**

**}**

**} while (choice != 5);**

**return 0;**

**}**