c

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#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#define MAX_CAT 50
#define DATA_FILE "account_book.txt"
typedef struct {
char type; // 'I' income, 'E' expense
char category[MAX_CAT];
int amount;
} Record;
void print_menu() {
printf("\n==== Simple Account Book ====\n");
printf("1. Add record\n");
printf("2. List records\n");
printf("3. Summary\n");
printf("0. Exit\n");
printf("Select: ");
}
void add_record() {
Record r;
char line[128];
printf("Type (I=income, E=expense): ");
fgets(line, sizeof(line), stdin);
r.type = line[0] == 'E' || line[0] == 'e' ? 'E' : 'I';
printf("Category: ");
fgets(r.category, MAX_CAT, stdin);
if (r.category[strlen(r.category) - 1] == '\n')
r.category[strlen(r.category) - 1] = '\0';
printf("Amount: ");
fgets(line, sizeof(line), stdin);
r.amount = atoi(line);
FILE *fp = fopen(DATA_FILE, "a");
if (!fp) {
printf("Failed to open file.\n");
return;
}
fprintf(fp, "%c,%s,%d\n", r.type, r.category, r.amount);
fclose(fp);
printf("Record added.\n");
}
void list_records() {
FILE *fp = fopen(DATA_FILE, "r");
if (!fp) {
printf("No records.\n");
return;
}
printf("\n[Records]\n");
char line[256];
while (fgets(line, sizeof(line), fp)) {
char type, category[MAX_CAT];
int amount;
if (sscanf(line, "%c,%49[^,],%d", &type, category, &amount) == 3) {
printf("%s: %-10s %d\n", type == 'I' ? "Income " : "Expense", category, amount);
}
}
fclose(fp);
}
void summary() {
FILE *fp = fopen(DATA_FILE, "r");
if (!fp) {
printf("No records.\n");
return;
}
int total_income = 0, total_expense = 0;
char line[256];
while (fgets(line, sizeof(line), fp)) {
char type, category[MAX_CAT];
int amount;
if (sscanf(line, "%c,%49[^,],%d", &type, category, &amount) == 3) {
if (type == 'I') total_income += amount;
else total_expense += amount;
}
}
fclose(fp);
printf("\n[Summary]\n");
printf("Total income : %d\n", total_income);
printf("Total expense: %d\n", total_expense);
printf("Balance : %d\n", total_income - total_expense);
}
int main() {
char line[16];
while (1) {
print_menu();
if (!fgets(line, sizeof(line), stdin)) break;
int choice = atoi(line);
switch (choice) {
case 1: add_record(); break;
case 2: list_records(); break;
case 3: summary(); break;
case 0: printf("Bye.\n"); return 0;
default: printf("Unknown menu.\n");
}
}
return 0;
}
```