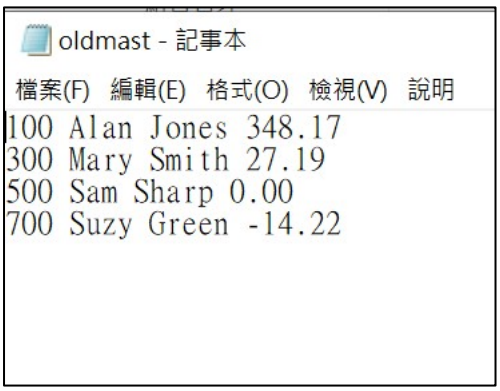
11.7 (Creating Data for the File-Matching Program)

```
#include <stdio.h>

int main(void)
{
    int account;
    char lastname[30];
    char firstname[30];
    double balance;

    FILE *cfPtr1;
    if ((cfPtr1=fopen("oldmast.dat","w"))==NULL){
        printf("File could not be opened\n");
    }
    else{
        printf("Sample data for file oldmast.dat:\n");
        printf("Enter account, name, and balance (EOF to end): ");
        scanf("%d%s%s%lf",&account,lastname,firstname,&balance);
        printf("");

        while (!feof(stdin)){
            fprintf(cfPtr1,"%d %s %s %.2f\n",account,lastname,firstname,balance);
            printf("Enter account, name, and balance (EOF to end): ");
            scanf("%d%s%s%lf",&account,lastname,firstname,&balance);
            printf("");
        }
        fclose(cfPtr1);
    }
    printf("\n");

    int account2;
    double amount;

    FILE *cfPtr2;
    if ((cfPtr2=fopen("trans.dat","w"))==NULL){
        printf("File could not be opened\n");
    }
    else{
        printf("Sample data for file trans.dat:\n");
        printf("Enter account, name, and balance (EOF to end): ");
        scanf("%d%lf",&account2,&amount);
        printf("");
```

```
        while (!feof(stdin)){
            fprintf(cfPtr2,"%d %.2f\n",account2,amount);
            printf("Enter account, name, and balance (EOF to end): ");
            scanf("%d%lf",&account2,&amount);
            printf("");
        }
        fclose(cfPtr2);
    }
}
```

```
Sample data for file oldmast.dat:
Enter account, name, and balance (EOF to end): 100 Alan Jones 348.17
Enter account, name, and balance (EOF to end): 300 Mary Smith 27.19
Enter account, name, and balance (EOF to end): 500 Sam Sharp 0.00
Enter account, name, and balance (EOF to end): 700 Suzy Green -14.22
Enter account, name, and balance (EOF to end): ^Z

Sample data for file trans.dat:
Enter account & transaction amount (EOF to end): 100 27.14
Enter account & transaction amount (EOF to end): 300 62.11
Enter account & transaction amount (EOF to end): 400 100.56
Enter account & transaction amount (EOF to end): 900 82.17
Enter account & transaction amount (EOF to end): ^Z
PS C:\Users\User\Documents\C\.vscode>
```

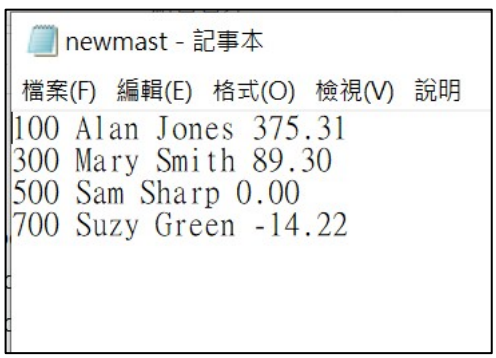


11.9 (Testing the File-Matching Program)

```
    double masterbalance;
    double transactionbalance;
    char masterName[30];
    FILE *ofPtr;
    FILE *tfPtr;
    FILE *nfPtr;

    if ((ofPtr=fopen("oldmast.dat","r"))==NULL ||
        (tfPtr=fopen("trans.dat","r"))==NULL ||
        (nfPtr=fopen("newmast.dat","w"))==NULL){
            puts("Unable to open one of the files");
    }
```

```
    puts("Processing....");
    fscanf(tfPtr,"%d%lf",&transactionaccount,&transactionbalance);
    while (!feof(tfPtr)){
        fscanf(ofPtr,"%d%[^0-9-]%lf",&masteraccount,masterName,&masterbalance);
        while (masteraccount<transactionaccount &&!feof(ofPtr)){
            fprintf(nfPtr,"%d %s %.2f\n",masteraccount,masterName,masterbalance);
            printf("%d %s %.2f\n",masteraccount,masterName,masterbalance);
            fscanf(ofPtr,"%d%[^0-9-]%lf",&masteraccount,masterName,&masterbalance);
        }
        if (masteraccount == transactionaccount){
            masterbalance+=transactionbalance;
            fprintf(nfPtr,"%d %s %.2f\n",masteraccount,masterName,masterbalance);
            printf("%d %s %.2f\n",masteraccount,masterName,masterbalance);
        }
        else if (masteraccount>transactionaccount){
            printf("Unmatched transaction record for account %d\n",transactionaccount);
            fprintf(nfPtr,"%d %s %.2f\n",masteraccount,masterName,masterbalance);
            printf("%d %s %.2f\n",masteraccount,masterName,masterbalance);
        }
        else{
            printf("Unmatched transaction record for account %d\n",transactionaccount);
        }
        fscanf(tfPtr,"%d%lf",&transactionaccount,&transactionbalance);
    }
    while (!feof(ofPtr)){
        fscanf(ofPtr,"%d%[^0-9-]%lf",&masteraccount,masterName,&masterbalance);
        fprintf(nfPtr,"%d %s %.2f",masteraccount,masterName,masterbalance);
        printf("%d %s %.2f",masteraccount,masterName,masterbalance);
    }
    fclose(ofPtr);
    fclose(tfPtr);
    fclose(nfPtr);
}
```

```
Processing....
100 Alan Jones 375.31
300 Mary Smith 89.3
Unmatched transation record for account 400
500 Sam Sharp 0.0
700 Suzy Green -14.22
Unmatched transation record for account 900
```



1.X Book analyzer:

```
#include <stdio.h>

int main(void)
{
	int masteraccount;
	int transactionaccount;
#include <stdio.h>
#include <stdlib.h>
#include <ctype.h>
#include <string.h>
#include <time.h>
#define MAX 10000

struct WordAndFreq{
	char word[20];
	int freq;
};

int main(void)
{
	struct WordAndFreq Wordbank[MAX];
	FILE *bookPtr;
	char chr,chr2wrd[20];
	int chr2wrd_len=0,Wordbank_len=0,wtotal=0,exist=0;
	int i,t0,pass,swap;
	char hold_word[20];
	int hold_freq;

	t0=time(NULL);
	if ((bookPtr=fopen("SherlockHolmes.txt","r"))==NULL){
		puts("File could not be opened");
	}
	else{
		chr2wrd[0]='\0';
		while ((chr=fgetc(bookPtr))!=EOF){
			if (isalpha(chr)){
				chr=tolower(chr);
				chr2wrd[chr2wrd_len++]=chr;
			}
			else{
				chr2wrd[chr2wrd_len]='\0';
```

```
            if (chr2wrd_len!=0){
                wtotal++;
                for (i=0;i<Wordbank_len;i++){
                    if (strcmp(chr2wrd,Wordbank[i].word)==0){
                        Wordbank[i].freq++;
                        exist=1;
                    }
                }
                if (!exist){
                    sprintf(Wordbank[Wordbank_len].word,"%s",chr2wrd);
                    Wordbank[Wordbank_len].freq=1;
                    Wordbank_len++;
                }
            }
            chr2wrd_len=0;
            chr2wrd[0]='\0';
            exist=0;
        }
    }
    for (pass=1;pass<Wordbank_len;pass++){
        swap=0;
        for (i=0;i<Wordbank_len-pass;i++){
            if (Wordbank[i].freq<Wordbank[i+1].freq){
                swap=1;
                hold_freq=Wordbank[i].freq;
                strcpy(hold_word,Wordbank[i].word);
                Wordbank[i].freq=Wordbank[i+1].freq;
                strcpy(Wordbank[i].word,Wordbank[i+1].word);
                Wordbank[i+1].freq=hold_freq;
                strcpy(Wordbank[i+1].word,hold_word);
            }
        }
        if (!swap){
            break;
        }
    }
    printf("The book being analyzed: SherlockHolmes.txt\n");
    printf("Total number of words: %d\n",wtotal);
    printf("Number of different words: %d\n",Wordbank_len);
    printf("The most common words are:\n");
    for (i=0;i<Wordbank_len;i++){
        printf("    %-20s%d\n",Wordbank[i].word,Wordbank[i].freq);
```

```
            }
            fclose(bookPtr);
        }
        printf("\nTime elapsed in second: %d",time(NULL)-t0);
        return 0;
}
```