#include <conio.h>

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

**struct** inventory { *// Inventory data and file locations are grouped together in the structure.*

FILE \*pointer, \*pointer2;

**int** tempint, tempint2;

**float** tempfloat, tempfloat2;

**char** \*output;

**char** barcode[15];

**char** label[50];

**float** price;­­

**char** tempchar[100];

size\_t size;

};

**void** Locate(); *// The function prototypes*

**void** Append();

**void** Display();

**void** Delete();

**void** Search();

**void** Stocks();

**void** DataStore(**float** price);

**void** IncomeCalculator();

**char** barcodetest[] = "MGSI";

**char** choice[100];

**int** main() {

puts("MATTHEW'S GROCERY STORE INVENTORY\n");

Locate(); // Loads file

puts("\nINVENTORY OPTIONS\n"); *// Prompts the user to input their choice.*

puts("a = Append/Create inventory\n");

puts("b = Display inventory\n");

puts("c = Delete inventory\n");

puts("d = Search inventory\n");

puts("e = Calculate stocks\n");

puts("f = Income Calculator\n");

printf("Choice: ");

scanf("%s", choice);

printf("\n");

**int** error = strlen(choice);

**if**(error>1) { *// Checks if userinput is greater than 1 character and if input IS a character.*

puts("Error parsing data. Check input.\n");

exit(0);

} **else if**(choice[0] == 'a') { *// Takes the first character of string as input.*

Append();

} **else if**(choice[0] == 'b') {

Display();

} **else if**(choice[0] == 'c') {

Delete();

} **else if**(choice[0] == 'd') {

Search();

} **else if**(choice[0] == 'e') {

Stocks();

} **else if**(choice[0] == 'f') {

IncomeCalculator();

} **else** {

puts("Error parsing data. Check input.\n");

exit(0);

}

printf("Continue(y)?:");

scanf("%s", choice);

error = strlen(choice);

**if**(error>1) {

puts("Wrong input.");

exit(0);

}

**if**(choice[0] == 'y'|| choice[0] == 'Y') { *// Loops the program.*

system("cls");

main();

}

**return** 0;

}

**void** Locate() {

**struct** inventory locate;

**if**((locate.pointer=fopen("database.dat", "rb"))==NULL) *// Checks if file exists already.*

puts("There is no file.");

**else**

puts("Successfully located file.");

fclose(locate.pointer);

**return**;

}

**void** Append() {

**struct** inventory append;

printf("8-Digit Barcode#(MGSI----): "); *// Prompts the user to input data.*

scanf("%s", append.barcode);

printf("\n");

append.tempint = strlen(append.barcode);

**if**((strncmp(append.barcode, barcodetest, 4))||(append.tempint != 8)) {

puts("Wrong input.");

exit(0);

}

getchar(); *// Consumes the newline character that is stored in the input buffer.*

printf("Name: ");

gets(append.label);

printf("\n");

printf("Price: $");

scanf("%f", &append.price);

printf("\n");

**if**(append.price==0||append.price<0) {

puts("Wrong input.");

exit(0);

}

append.pointer = fopen("database.dat", "ab"); // Writes user input to file.

fprintf(append.pointer, "%s", append.barcode);

printf("Copied [%s]", append.barcode);

fprintf(append.pointer, " / %.2f", append.price);

printf(", [%.2f]", append.price);

fprintf(append.pointer, " / %s\n", append.label);

printf(" and [%s].", append.label);

fclose(append.pointer);

printf("\n\n");

DataStore(append.price); *// Calls the function DataStore() to store prices for stock calculation.*

**return**;

}

**void** Display() {

**struct** inventory display;

**if**((display.pointer = fopen("database.dat", "rb"))==NULL) {

puts("There is no file.\n");

} **else** {

fseek(display.pointer, 0L, SEEK\_END); *// Takes the seeker to the end of the file.*

display.tempint = ftell(display.pointer); *// Stores the position of the seeker in a pointer.*

fseek(display.pointer, 0L, SEEK\_SET);  *// Brings the seeker back to start of the program.*

display.output = malloc(display.tempint+1);

display.size = fread(display.output, 1, display.tempint, display.pointer);

display.output[display.size] = 0;

printf("Format: ( Barcode Number / Price($) / Label )\n%s\n", display.output); *// Prints the entire file onto the screen.*

free(display.output); *// Frees the memory allocated for the buffer.*

}

fclose(display.pointer);

**return**;

}

**void** Delete() {

remove("database.dat");

remove("price.dat"); *// Deletes the two files used in the program.*

puts("Successfully deleted file(s).\n");

**return**;

}

**void** Search() {

**struct** inventory search;

**if**((search.pointer = fopen("database.dat", "rb"))==NULL) {

puts("There is no file.\n");

} **else** {

getchar();

printf("8-Digit Barcode#(MGSI----):");

gets(search.barcode);

search.tempint = strlen(search.barcode);

**if**((strncmp(search.barcode, barcodetest, 4))||(search.tempint != 8)) { // *Checks for MGSI or string length that is not 8 characters.*

puts("Wrong input.");

exit(0);

}

**while**(!feof(search.pointer)) {

fgets(search.tempchar, 100, search.pointer);

search.output = strstr(search.tempchar, search.barcode);

**if**(search.output == NULL) { *// Loops until the record is found.*

puts("Not found.");

} **else** {

puts("Found record.");

puts(search.tempchar);

**return**;

}

}

}

fclose(search.pointer);

**return**;

}

**void** DataStore(**float** price) {

**struct** inventory data;

**if**((data.pointer = fopen("price.dat", "rb"))==NULL) {

fclose(data.pointer);

data.pointer = fopen("price.dat", "wb");

fprintf(data.pointer, "%.2f %d", price, 1); *// Writes initial input to create the file.*

fclose(data.pointer);

} **else** {

fscanf(data.pointer, "%f %d", &data.tempfloat, &data.tempint); *// Recalls stock information.*

price += data.tempfloat;

data.tempint++;

fclose(data.pointer);

data.pointer = fopen("price.dat", "wb");

fprintf(data.pointer, "%.2f %d", price, data.tempint);

fclose(data.pointer);

}

**return**;

}

**void** Stocks() { *// Calculates the budget information needed.*

**struct** inventory stocks;

**float** budget, income;

printf("Current Budget: $");

scanf("%f", &budget);

**if**(budget==0) {

puts("Wrong input.");

exit(0);

}

printf("\n");

printf("Total Income: $");

scanf("%f", &income);

**if**(income==0) {

puts("Wrong input.");

exit(0);

}

printf("\n");

stocks.pointer = fopen("price.dat", "rb");

fscanf(stocks.pointer, "%f %d", &stocks.price, &stocks.tempint);

printf("Total items: %d\n", stocks.tempint);

printf("Total Inventory Price: $%.2f\n", stocks.price);

fclose(stocks.pointer);

printf("Total Budget: $%.2f\n", budget+=stocks.price);

printf("Old Budget: $%.2f\n\n", budget-=income);

**return**;

}

**void** IncomeCalculator() { *// Calculates income from user input.*

**int** i, itemssold;

**float** current\_price, total\_price = 0;

printf("Items Sold: ");

scanf("%i", &itemssold);

**if**(itemssold==0) {

puts("Wrong input.");

exit(0);

}

printf("\n");

itemssold++;

**for**(i=1; i<itemssold; i++) { *// Loops for each item sold.*

printf("Price of item %i: $", i);

scanf("%f", &current\_price);

**if**(current\_price==0) {

puts("Wrong input.");

exit(0);

}

total\_price+=current\_price;

printf("\n");

}

printf("Total Income: $%.2f", total\_price);

puts("\n");

**return**;

}