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//=================================================================================================
// Valerie Montalvo - Homework 3
// Airline Flight Data File - Read/Write with file I/O stream
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#include <iostream>
#include <string>
#include <iomanip>
#include <fstream>
#include <ctype.h>

using namespace std;

void getCode (char &); // function to input flight code
void display (int, string, string, int, char); // function to display flight data
void displayTitle (); // function to display flight data titles
void prntRpt (); // function to print all file flight data to screen
void newData (); // function to enter new flight data

// MAIN PROGRAM
int main()
{
    // initialize variables
    int opselect = 0; // user menu selection

    do // program repeats until user exits
    {
        system ("cls"); // clears the screen

        // user menu
        cout << "\t\t\t Tech Air Dispatch \n\n";
        cout << "\t\t 1. Enter Flight Data \n";
        cout << "\t\t 2. Print Report \n";
        cout << "\t\t 3. Exit \n\n";
        cout << "\t Make a selection: ";
        cin >> opselect;

        switch (opselect) // menu switch statement
        {
        case 1: // enter new flight data
            {
                newData (); // calls to funtion to enter data
                break;
            }

        case 2: // display all stored data
            {
                prntRpt(); // calls to function to print report
                break;
            }

        case 3: // exit system
            {
                cout << "\n Signing Off... \n\n";
                system ("pause");
                return 0;
            }

        default:

                cout << "\n Invalid Selection \n";
        } // end switch statement

    } while (1); // end infinite do-while

} // END MAIN

// ================================ CALLED FUNCTIONS ====================================

// INPUT FLIGHT CODE FUNCTION
void getCode ( char & code)
{
    do
    {
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        cout << "\t Flight Code (O/D/C): ";
        cin >> code;

        code = toupper(code);

    } while ( code!='O' && code!='D' && code!='C' );

} // END GETCODE

// DISPLAY FLIGHT DATA FUNCTION
void display (int flightNum, string origin, string dest, int pass, char code)
{
    cout << left << setw(15) << setfill(' ') << flightNum << " " << setw(15) << origin << " " << setw(15) << dest << " " << ↙
    setw(15) << pass << " " << setw(15) << code << endl;

} // END DISPLAY

// DISPLAY FLIGHT DATA TITLES FUNCTION
void displayTitle()
{
    cout << "\n\t\t Flight Data Report \n\n";
    cout << left<< setw(15) << setfill(' ') << "Flight No." << " " << setw(15) << "Origin" << " " << setw(15) <<          ↙
    "Destination"<< " " << setw(15) << "Passengers" << " " << setw(15) << "Code"<< endl << endl;


} // END DISPLAYTITLE


// PRINT FLIGHT REPORT FUNCTION
void prntRpt()
{
    // initialize variables
    int flightNum = 0; // flight number
    string origin = ""; // flight origin
    string dest = ""; // flight destination
    char code = ' '; // flight code
    int pass = 0; // number of passengers

    ifstream inFile; // file to be read
    inFile.open ("airline_data.dat", ios::in); // opens flight_data and begins reading

    if (inFile.is_open())
    {
        displayTitle(); // displays data titles
        inFile >> flightNum;

        while (!inFile.eof()) // repeats while there is data still in the file
        {
            inFile.ignore(1);
            getline(inFile, origin, '#');
            getline(inFile, dest, '#');
            inFile >> pass;
            inFile.ignore(1);
            inFile >> code;
            inFile.ignore(2);

            display (flightNum, origin, dest, pass, code); // displays read flight data under the titles


            inFile >> flightNum;
        }
        cout << endl;
        system ("pause");

    }

    else
    {
        cout << "\n\t File airline_data.dat not opened." << endl;
        system ("pause");
    }

} // END PRNTRPT
```

```
// NEW FLIGHT DATA ENTRY FUNCTION
void newData()
{
    // initialize variables
    int flightNum = 0; // flight number
    string origin = ""; // flight origin
    string dest = ""; // flight destination
    char code = ' '; // flight code
    int pass = 0; // number of passengers

    ofstream outFile; // write to file

    outFile.open ("airline_data.dat", ios::app); // open airline_data file and append

    if (outFile.is_open()) // checks to see if the file is open
    {
        cout << "\n\t Flight Number: ";
        cin >> flightNum;

        cin.ignore(1);
        cout << "\t City of Origin: ";
        getline (cin, origin);

        cout << "\t Destination City: ";
        getline (cin, dest);

        cout << "\t Number of Passengers: ";
        cin >> pass;

        getCode(code); // calls to flight code input function
        cout << endl;

        display (flightNum, origin, dest, pass, code); // displays flight data
        system ("pause");

        outFile << flightNum << '#' << origin << '#' << dest << '#' << pass << '#' << code << '#' << endl; // writes user
    input to flight_data
    }

    else // if the file is not open, display error
    {
        cout << "\n\t File airline_data.dat not opened." << endl;
        system ("pause");
    }

    outFile.close(); // close opened file

} // END NEWDATA
```