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/*****
**      Program Filename: A3-2.cpp
**      Author: Jessica Schuler
**      Date: 1-26-14
**      Description: This program allows a user to add names to a list, remove
**                   names from a list, and generate a list of names on a list.
**      Input: The user inputs menu selections 1-3 as well as names.
**      Output: The user can generate a list of names.
*****/

#include<iostream>
#include<vector> //need to use vector
#include<string> //need for string
#include<limits> //need for numeric_limits

using std::string;
using std::cout;
using std::cin;
using std::endl;
using namespace std;

/*****
**      Function: int main
**      Description: Main function to implement the program.
**      Parameters: Takes menu selections 1-3 and names
**      Pre-Conditions: Must select 1-3 for menu to work. Names input are string
**      Post-Conditions: outputs list of names
*****/

int main ()
{
    int menu, erase;
    char run_again = '1'; //variable to run program again initialize to run
    string new_name;
    vector<string> L(0); //declares vector of a string type initialized to 0.

    do
    {
        cout<<"Main Menu: "<<endl;
        cout<<"1: Add a Visitor"<<endl;
        cout<<"2: Remove a Visitor"<<endl;
        cout<<"3: List all Visitors"<<endl;
        cout<<"Choose an Option Now (Enter a Number 1-3): "<<endl;
        cin>>menu; //asks for user input of menu choice

        //While statement to ensure proper user input of an int
        while(cin.fail())
        {
            cin.clear();
            cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');
            cout << "Invalid Entry! You must enter a Number now: ";
            cin >> menu;
        }

        switch (menu) //switch loop to direct user input
        {
            case 1:
                cout<<"Enter a New Visitor Name"<<endl;
                cin>>new_name; //asks user to input a name to be added
                L.push_back(new_name); //adds name to vector

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        break;
    case 2:
        cout<<"Remove a Visitor!"<<endl;
        cout<<"Enter the number of the Visitor to Remove: ";
        cout<<"(Remember the numbering starts with 0!)"<<endl;
        cin>>erase;//asks user for number of name to erase
        L.erase(L.begin()+(erase));//erases that entry in vector
        break;
    case 3:
        cout<<"List of all Visitors"<<endl;
        for(int i = 0; i < L.size(); ++i)//for loop to iterate
        {
            cout <<"L["<<i<<" ] = "<< L.at(i) <<endl;//outputs list
        }
        cout << endl;
        break;
    default:
        cout<<"Invalid Selection"<<endl;//incase of bad menu input
}

cout<<"Would you like to make another selection?"<<endl;
cout<<"Enter a 1 for Yes or a 2 for No: ";
cin>>run_again;//asks user if they would like to run again

if(run_again !='1' && run_again!='2')//checks for valid input
{
    cout<<"Invalid selection! Please enter a 1 or 2: ";
    cin>>run_again;//if input was invalid asks for new input
}
}while(run_again == '1');//keeps running program if user selects 1 for yes

cout<<"Program is now Ending!"<<endl;//lets user know program is ending

return 0;

}

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