#include <iostream>

#include <string>

#include <iomanip>

using namespace std;

const int NUM\_CHARITIES = 3;

struct Charity {

string name;

int totalDonation;

};

// Task 1 - Set up the donation system

void setupDonationSystem(Charity charities[]) {

for (int i = 0; i < NUM\_CHARITIES; ++i) {

cout << "Enter the name of Charity " << i + 1 << ": ";

cin >> charities[i].name;

}

cout << "Charities available for donation:\n";

for (int i = 0; i < NUM\_CHARITIES; ++i) {

cout << i + 1 << ". " << charities[i].name << endl;

}

}

// Task 2 - Record and total each donation

void recordDonation(Charity charities[]) {

int choice;

float shoppingBill;

cout << "Enter your charity choice (1, 2, or 3): ";

cin >> choice;

if (choice < 1 || choice > NUM\_CHARITIES) {

cout << "Invalid choice. Please select between 1, 2, or 3." << endl;

return;

}

cout << "Enter the value of your shopping bill: $";

cin >> shoppingBill;

float donation = shoppingBill \* 0.01;

charities[choice - 1].totalDonation += donation;

cout << "Donation of $" << fixed << setprecision(2) << donation << " made to " << charities[choice - 1].name << endl;

}

// Task 3 - Show the totals so far

void showTotals(Charity charities[]) {

cout << "Charity Totals So Far:\n";

// Sort the charities based on total donation in descending order

for (int i = 0; i < NUM\_CHARITIES - 1; ++i) {

for (int j = i + 1; j < NUM\_CHARITIES; ++j) {

if (charities[i].totalDonation < charities[j].totalDonation) {

swap(charities[i], charities[j]);

}

}

}

for (int i = 0; i < NUM\_CHARITIES; ++i) {

cout << charities[i].name << ": $" << fixed << setprecision(2) << charities[i].totalDonation << endl;

}

float grandTotal = 0;

for (int i = 0; i < NUM\_CHARITIES; ++i) {

grandTotal += charities[i].totalDonation;

}

cout << "GRAND TOTAL DONATED TO CHARITY: $" << fixed << setprecision(2) << grandTotal << endl;

}

int main() {

Charity charities[NUM\_CHARITIES];

// Task 1 - Set up the donation system

setupDonationSystem(charities);

// Task 2 - Record and total each donation

int choice;

do {

recordDonation(charities);

cout << "Enter -1 to show totals so far or any other number to continue: ";

cin >> choice;

if (choice == -1) {

showTotals(charities);

}

} while (choice != -1);

return 0;

}