# HW 6

ELEC 3150 – Object Oriented Programming (Fall 2023)

Nick Cebula

Main.cpp:

```cpp
#include <iostream>
#include <vector>
#include "Customer.h"

using std::vector;
using std::cout;
using std::endl;

int main() {
    vector<Customer> line;
    vector<int> spending = { 50, 30, 70, 55, 82, 90, 20};
    line.push_back(Customer("David")); //50
    line.push_back(Customer("Tim"));   //30
    line.push_back(Customer("John"));  //70
    line.push_back(Customer("Pete"));  //55
    line.push_back(Customer("Ann"));   //82
    line.push_back(Customer("Beth"));  //90
    line.push_back(Customer("Rob"));   //20
    line.push_back(Customer());        //30

    int register1 = 0;
    int register2 = 0;
    int count = 0;

    while (count < spending.size()) {
        for (int i = 0; i < line.size(); i++) {
            cout << line[i].show_name() << " ";
        }
        cout << endl;
        // Register 1
        register1 += spending[count];
        cout << "Register 1: " << line[0].show_name() << " spends $" << spending[count] << endl;
        cout << "Register 1 cash is $ " << register1 << endl;
        // Delete first in line
        line.erase(line.begin());
        if (line.empty()) {
            break;
        }
        cout << "-----" << endl;
        count++;
        line.push_back(Customer());        //30
        spending.push_back(30);
```

```cpp
        // Register 2
        if (count < spending.size()) {
            register2 += spending[count];
            cout << "Register 2: " << line[0].show_name() << " spends $" << spending[count] << endl;
            cout << "Register 2 cash is $ " << register2 << endl;
            // Delete first in line
            line.erase(line.begin());
            if (line.empty()) {
                break;
            }
        }
        count++;
    }

    cout << "Total money collected at Register 1: $" << register1 << endl;
    cout << "Total money collected at Register 2: $" << register2 << endl;

    return 0;
}
```

Customer.h:

```h
#pragma once
#include <string>
using std::string;
class Customer
{
    //attribute
    string name;
public:
    //constructor
    Customer();
    Customer(string in_name);
    //method
    string show_name();

    //destructor
    ~Customer();
    };
```

Customer.cpp:

```cpp
#include "Customer.h"
//constructor
Customer::Customer() {
    name = "Default";
}
Customer::Customer(string in_name) {
    name = in_name;
}
//method
string Customer::show_name() {
    return name;
}

//destructor
Customer::~Customer() {

}
```

Results:

```
David Tim John Pete Ann Beth Rob Default
Register 1: David spends $50
Register 1 cash is $ 50
-----
Register 2: Tim spends $30
Register 2 cash is $ 30
John Pete Ann Beth Rob Default Default
Register 1: John spends $70
Register 1 cash is $ 120
-----
Register 2: Pete spends $55
Register 2 cash is $ 85
Ann Beth Rob Default Default Default
Register 1: Ann spends $82
Register 1 cash is $ 202
-----
Register 2: Beth spends $90
Register 2 cash is $ 175
Rob Default Default Default Default
Register 1: Rob spends $20
Register 1 cash is $ 222
-----
Register 2: Default spends $30
Register 2 cash is $ 205
Default Default Default Default
Register 1: Default spends $30
Register 1 cash is $ 252
-----
Register 2: Default spends $30
Register 2 cash is $ 235
Default Default Default
Register 1: Default spends $30
Register 1 cash is $ 282
-----
Register 2: Default spends $30
Register 2 cash is $ 265
Default Default
Register 1: Default spends $30
Register 1 cash is $ 312
-----
Register 2: Default spends $30
Register 2 cash is $ 295
Total money collected at Register 1: $312
Total money collected at Register 2: $295
```