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CSC 121 001 Computer Science I
August 31, 2017 Thursday

Homework.
Chapter 3. Programming Challenges on Page 149, Qn. 10. Box Office.

Screenshot of runtime:

```
Hi!
Please enter the following information:

Movie Name? The Wheels of Fury
Adult Tickets Sold? 34
Child Tickets Sold? 18

--------------------------------------------------

Movie Name:                    "The Wheels of Fury"
Adult Tickets Sold:            34
Child Tickets Sold:            18
Gross Box Office Revenue:      $  448.00
Amount Paid to Distributor:   -$   89.60
Net Box Office Revenue:        $  358.40

--------------------------------------------------

Process finished with exit code 0
```

Files Included:

- main.cpp
- BoxOffice.h
- BoxOffice.cpp

Source Code:

- main.cpp

```cpp
#include "BoxOffice.h"

int main() {
    BoxOffice b;

    b.getInfo();
    b.calculateRevenue();
    b.printReport();

    return 0;
}
```

- BoxOffice.h

```
#include <string>

class BoxOffice {

public:
    // User Input
    int adultTickets, childTickets;
    std::string movieName;

    // Constants, defined by the problem.
    const double adultCost = 10.0;
    const double childCost = 6.0;
    const double distributorRate = .20;

    // Placeholders.
    double grossRevenue;
    double distributorCut;
    double netRevenue;

    // Display Modifiers
    const int firstColWidth = 30;

    void getInfo();
    void calculateRevenue();
    void printReport();

};
```

- BoxOffice.cpp

```
#include <iostream>
#include <string>
#include <iomanip>
#include "BoxOffice.h"
using namespace std;

void BoxOffice::getInfo() {
    cout << "Hi!" << endl;
    cout << "Please enter the following information: " << endl << endl;

    cout << "Movie Name? ";
    getline( cin, movieName );
    cout << "Adult Tickets Sold? ";
    cin >> adultTickets;
    cout << "Child Tickets Sold? ";
    cin >> childTickets;

    cout << endl;
    return;
}
```

** source code for BoxOffice.cpp continued on next page.*

```
void BoxOffice::calculateRevenue() {
    grossRevenue  = adultTickets * adultCost;
    grossRevenue += childTickets * childCost;

    distributorCut = grossRevenue * distributorRate;
    netRevenue = grossRevenue - distributorCut;

    return;
}

void BoxOffice::printReport() {
    // Width for the money-related info.
    int costWidth = 7;
    string border;

    border.assign( firstColWidth + movieName.length() + 2, '-');

    cout << border << endl << endl;

    // User input information
    cout << left << setw(firstColWidth) << "Movie Name: ";
    cout << "\"" << movieName << "\"" << endl;

    cout << left << setw(firstColWidth) << "Adult Tickets Sold: ";
    cout << adultTickets << endl;

    cout << left << setw(firstColWidth) << "Child Tickets Sold: ";
    cout << childTickets << endl;

    // Calculated Information
    cout << fixed << showpoint << setprecision(2);

    cout << left << setw(firstColWidth - 1) << "Gross Box Office Revenue: ";
    cout << " $ " << right << setw(costWidth) << grossRevenue << endl;

    cout << left << setw(firstColWidth - 1) << "Amount Paid to Distributor: ";
    cout << "-$ " << right << setw(costWidth) << distributorCut << endl;

    cout << left << setw(firstColWidth - 1) << "Net Box Office Revenue: ";
    cout << " $ " << right << setw(costWidth) << netRevenue << endl;

    cout << endl << border << endl;

    return;
}
```