CSC 122 001 Computer Science II
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Chapter 11 Programming Challenge 7 Corporate Sales
See book for complete requirements.

Screenshot of runtime.

```
Enter sales for Division 1 as prompted.
   Quarter 1 Sales: 12300.45
   Quarter 2 Sales: 45780.32
   Quarter 3 Sales: 12789.56
   Quarter 4 Sales: 23589.6

Enter sales for Division 2 as prompted.
   Quarter 1 Sales: 21567.96
   Quarter 2 Sales: 32487.34
   Quarter 3 Sales: 86396.37
   Quarter 4 Sales: 27480.90

Enter sales for Division 3 as prompted.
   Quarter 1 Sales: 30395.56
   Quarter 2 Sales: 23959.53
   Quarter 3 Sales: 69853.43
   Quarter 4 Sales: 29586.34

Enter sales for Division 4 as prompted.
   Quarter 1 Sales: 29385.32
   Quarter 2 Sales: 68439.23
   Quarter 3 Sales: 12384.96
   Quarter 4 Sales: 95214.32

Enter sales for Division 5 as prompted.
   Quarter 1 Sales: 10932.34
   Quarter 2 Sales: 49284.6
   Quarter 3 Sales: 20385.32
   Quarter 4 Sales: 59394.06

Enter sales for Division 6 as prompted.
   Quarter 1 Sales: 20349.53
   Quarter 2 Sales: 86937.3
   Quarter 3 Sales: 93845.29
   Quarter 4 Sales: 58306.34


CORPORATE SALES DATA TABLE
-------------------------------------------------------------------
DIVISION  |  Q1 SALES    |  Q2 SALES    |  Q3 SALES    |  Q4 SALES
--------  |  ----------  |  ----------  |  ----------  |  ----------
       1  |    12300.45  |    45780.32  |    12789.56  |    23589.60
       2  |    21567.96  |    32487.34  |    86396.37  |    27480.90
       3  |    30395.56  |    23959.53  |    69853.43  |    29586.34
       4  |    29385.32  |    68439.23  |    12384.96  |    95214.32
       5  |    10932.34  |    49284.60  |    20385.32  |    59394.06
       6  |    20349.53  |    86937.30  |    93845.29  |    58306.34
-------------------------------------------------------------------
TOTAL CORPORATE SALES:                                  1021035.00
-------------------------------------------------------------------
                                                              END
```

Files included: (1) DivSales.h, (2) DivSales.cpp, (3) main.cpp

DivSales.h

```h
#ifndef CH11_PR7_CORPORATE_SALES_DIVSALES_H
#define CH11_PR7_CORPORATE_SALES_DIVSALES_H


class DivSales {

private:
    static double totalCorporateSales;
    double quarterSales[4];

public:
    static double getTotalCorporateSales();
    void setSales(double, double, double, double);
    double getSales(int) const;

};


#endif //CH11_PR7_CORPORATE_SALES_DIVSALES_H
```

DivSales.cpp

```cpp
#include <numeric>
#include <algorithm>
#include <iostream>
#include "DivSales.h"

double DivSales::totalCorporateSales = 0;

double DivSales::getTotalCorporateSales() {
    return totalCorporateSales;
}

void DivSales::setSales(
    double salesQ1, double salesQ2, double salesQ3, double salesQ4
) {
    quarterSales[0] = salesQ1;
    quarterSales[1] = salesQ2;
    quarterSales[2] = salesQ3;
    quarterSales[3] = salesQ4;
    totalCorporateSales += std::accumulate(quarterSales, quarterSales + 4, 0);
}

double DivSales::getSales(int idx) const {
    if (idx < 0 || idx >= 4) {
        std::cout << "Error: Invalid index for quarter. \n";
        std::cout << "Index must be from 0 to 3 inclusive. \n";
        exit(-404);
    }
    return quarterSales[idx];
}
```

main.cpp

```
#include <iostream>
#include <iomanip>
#include "DivSales.h"

int main() {
    DivSales div[6];
    int NUM_DIV = sizeof(div) / sizeof(div[0]);

    // Get sales for all four divs
    for (int i = 0; i < NUM_DIV; i++) {
        static double temp_q[4];
        std::cout << "Enter sales for Division " << i + 1 << " as prompted. \n";
        for (int q = 0; q < 4; q++) {
            std::cout << "   Quarter " << q + 1 << " Sales: ";
            std::cin >> temp_q[q];
        }
        div[i].setSales(temp_q[0], temp_q[1], temp_q[2], temp_q[3]);
        std::cout << "\n";
    }
    std::cout << "\n";

    // Display information in table.
    std::cout << std::fixed << std::showpoint;
    std::cout << "CORPORATE SALES DATA TABLE \n";
    std::cout << "------------------------------------------------------------------------ \n";
    std::cout << "DIVISION  |  Q1 SALES    |  Q2 SALES    |  Q3 SALES    |  Q4 SALES   \n";
    std::cout << "--------  |  ----------  |  ----------  |  ----------  |  ---------- \n";
    for (int i = 0; i < NUM_DIV; i++) {
        std::cout << std::setw(8) << std::setprecision(0) << std::right
                  << i + 1 << "  ";
        for (int q = 0; q < 4; q++) {
            std::cout << "|  " << std::setw(10) << std::setprecision(2)
                      << div[i].getSales(q) << "  ";
        }
        std::cout << "\n";
    }
    std::cout << "------------------------------------------------------------------------ \n";
    std::cout << "TOTAL CORPORATE SALES: ";
    std::cout << std::setw(45) << std::setprecision(2) << std::right
              << DivSales::getTotalCorporateSales() << "\n";
    std::cout << "------------------------------------------------------------------------ \n";
    std::cout << "                                                                    END \n";

    return 0;
}
```