```cpp
// Attached:
// File    :
// ========================================================
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// Class     : CS 1B
// Instructor: Med Mogasemi
// ========================================================
// Program: Monthly Sales Calculator (HW_1a)
// ========================================================
// Description:
// User inputs monthly sales amount and
// program determines and outputs the
// commission, base pay, and total pay.
// The program runs until the user inputs
// the exit statement.
// ========================================================
// ========================================================

#include <iostream>
#include <iomanip>
using namespace std;

// function prototypes
double getSalesAmt();
double calcCommission(double sales);
double calcPay(double commission, const double BASE_PAY);
void   displayPay(char& answer, double sales,
                  double commission, double pay, const double BASE_PAY);

// ========================================================
// ==== main ==============================================
// ========================================================
int main()
{
    // constant variables
    const double BASE_PAY = 2500;
    // variables
    double sales      = 0;
    double commission = 0;
    double pay        = 0;
    char   answer;

    // loop to repeat program until user inputs 'N' or 'n'
    do
    {
        // function used to return monthly sales amount from user
        sales = getSalesAmt();

        // function used to calculate and return commission from monthly
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            sales
50          commission = calcCommission(sales);
51
52          // function used to return total monthly pay for a salesperson
              from
53          // commission and base pay
54          pay = calcPay(commission, BASE_PAY);
55
56          // function used to display monthly sales, commission, base pay,
              total pay,
57          // then prompts the user if they want to run the program again
58          displayPay(answer, sales, commission, pay, BASE_PAY);
59
60          cout << endl;
61      } while(answer == 'Y'); // END - do
62
63      cout << "Thank you! Good bye!";
64
65      return 0;
66  } // END - int main()
67  // =======================================================
68
69
70
71
72  // =======================================================
73  // ===== function declaration ============================
74  // =======================================================
75
76  // ==== getSalesAmt ======================================
77  // This function prompts the user for monthly sales amount and
78  // returns monthly sales amount to main().
79  //
80  // Input:
81  // Monthly sales amount determined by the user.
82  //
83  // Output:
84  // Message prompting user to enter monthly sales amount.
85  // =======================================================
86  double getSalesAmt()
87  {
88      double sales = 0;
89
90      cout << "Enter monthly sales amount: ";
91      cin  >> sales;
92      cin.ignore(1000, '\n');
93
94      return sales;
95  } // END - getSalesAmt()
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// ==== calcCommission ===================================
// This function returns the commission earned by the
// salesperson from the monthly sales amount.
//
// Input:
// Sales from main().
//
// Output:
// Calculated commission.
// ========================================================
double calcCommission(double sales)
{
    double comPerc = 0;

    if (sales > 50000)
    {
        comPerc = 0.02;
    }
    else if (sales > 25000)
    {
        comPerc = 0.015;
    }

    return (sales * comPerc);
} // END - calcCommission()
// ========================================================


// ==== calcPay ==========================================
// This function calculates and returns the total
// pay of the salesperson.
//
// Input:
// Commission and base pay.
//
// Output:
// Calculated total pay.
// ========================================================
double calcPay(double commission, const double BASE_PAY)
{
    return BASE_PAY + commission;
} // END - calcPay()
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// ==== displayPay ======================================
// This function displays the monthly sales amount
// entered by the user and the commission, base pay,
// and total pay of the salesperson. It also asks the
// user to continue the program or not.
//
// Input:
// User input that determines the programs continuity.
//
// Output:
// Monthly sales amount, commission, base pay, and
// total pay, as well as a message prompting user input
// to either continue or end the program.
// ======================================================
void displayPay(char &answer, double sales, double commission, double pay, const double BASE_PAY)
{
    const int COL = 17;
    bool valid;

    cout << left;
    cout << fixed << setprecision(2);

    cout << setw(COL);
    cout << "Monthly Sales: " << "$ " << sales << endl;
    cout << setw(COL);
    cout << "Commission: "    << "$ " << commission << endl;
    cout << setw(COL);
    cout << "Base Pay: "      << "$ " << BASE_PAY << endl;
    cout << setw(COL);
    cout << "Total Pay: "     << "$ " << pay << endl;

    cout << "Do it again? (Y/N) ";
    cin.get(answer);
    answer = toupper(answer);

    cin.ignore(1000, '\n');

} // END - displayPay()
// ======================================================


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/* ========================== Output ====================
Enter monthly sales amount: 60000
Monthly Sales:   $ 60000.00
Commission:      $ 1200.00
Base Pay:        $ 2500.00
Total Pay:       $ 3700.00
Do it again? (Y/N) yes

Enter monthly sales amount: 23000
Monthly Sales:   $ 23000.00
Commission:      $ 0.00
Base Pay:        $ 2500.00
Total Pay:       $ 2500.00
Do it again? (Y/N) Y

Enter monthly sales amount: 1200
Monthly Sales:   $ 1200.00
Commission:      $ 0.00
Base Pay:        $ 2500.00
Total Pay:       $ 2500.00
Do it again? (Y/N) n

Thank you! Good bye!
C:\Users\ashle\source\repos\HW_1a\x64\Debug\HW_1a.exe (process 24460)
  exited with code 0.
Press any key to close this window . . .
*/
```