

Answer on Question #46130, Management, Other

Problem:

Write a program to calculate a person's net pay after subtracting federal income tax. The program should ask the user to enter the person's name, social security number, gross pay, and number of dependents. The program should first determine the tax rate according to the following schedule.

Weekly Income Tax Rate

0.00–300.00 0.085
300.01–500.00 0.120
500.01–1000.00 0.185
1000.01 and over 0.220

Use a function `Tax_Rate()` to determine the schedule. Pass the gross pay to `Tax_Rate()` and have the function return the rate.

Next, use the function `Calc_Fed_Tax()` to calculate the federal tax. The first argument should be the address of the gross income. The second argument should be the address of the tax rate (as returned by `Tax_Rate()`). The third argument should be the address of the number of dependents. The amount of the federal tax should be returned in the target of the fourth argument.

Finally, the program should calculate the net pay by subtracting the federal tax from the gross income. The program should display the person's name, social security number, gross pay, number of dependents, federal tax, and net pay.

Solution:

CODE (C++)

```
#include <iostream>
#include <string>
#include <iomanip>

using namespace std;

float Tax_Rate(float gross_pay) {
    if ((0 <= gross_pay) && (gross_pay <= 300)) {
        return 0.085;
    }
    if ((300.01 <= gross_pay) && (gross_pay <= 500)) {
        return 0.120;
    }
    if ((500.01 <= gross_pay) && (gross_pay <= 1000)) {
        return 0.185;
    }
    if (1000.01 <= gross_pay) {
        return 0.220;
    }
}

void Calc_Fed_Tax(float gross_pay, float tax_rate, float number_of_dependents,
float &federal_tax) {
    federal_tax = gross_pay * tax_rate;
}

int main() {
    string person_name;
    string social_security_number;
    float gross_pay;
    float number_of_dependents;
```

```

// Input
cout << "Person name: ";
cin >> person_name;
cout << "Social security number: ";
cin >> social_security_number;
cout << "Gross pay: ";
cin >> gross_pay;
cout << "Number of dependents: ";
cin >> number_of_dependents;

float tax_rate = Tax_Rate(gross_pay);
float federal_tax;
Calc_Fed_Tax(gross_pay, tax_rate, number_of_dependents, federal_tax);
float net_pay = gross_pay - federal_tax;

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

// Output
cout << "Person name: " << person_name << endl;
cout << "Social security number: " << social_security_number << endl;
cout << "Gross pay: " << gross_pay << endl;
cout << "Number of dependents: " << number_of_dependents << endl;
cout << "Federal tax: " << federal_tax << endl;
cout << "Net pay: " << net_pay << endl;

return 0;
}

```

OUTPUT

```

Person name: Andrew
Social security number: 123-123
Gross pay: 450
Number of dependents: 12

Person name: Andrew
Social security number: 123-123
Gross pay: 450.00
Number of dependents: 12.00
Federal tax: 54.00
Net pay: 396.00

Process returned 0 (0x0)   execution time : 9.505 s
Press any key to continue.
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```