Labs

Lab 1.1: Converting Fahrenheit to Celsius

What is the purpose?

In this lab exercise, you will write a program that reads a Fahrenheit degree in data type of double from an input dialog box, converts the degree to Celsius, and displays the result in a message dialog box. The formula for the conversion is:

Celsius = (5.0 / 9.0) * (Fahrenheit - 32)

What are the steps?

- Task 1:

Procedure

1. Create a Java class and name the java file with .java extension.
2. Import the javax.swing.JOptionPane package to create dialog boxes.
3. Assign a string variable1 that gets the input value in Fahrenheit from an input dialog box.
4. Cast variable1's Fahrenheit value into a double variable2.
5. Assign a double variable3 to convert the Fahrenheit value into a Celsius value.
6. Express the result into a dialog message box.
7. Compile the java file by the javac command.
8. Execute the java class by the java command.
9. Save copies of your output similar to Figures 1-1-1 and 1-1-2 and submit them to your instructor.

Figure 1-1-1

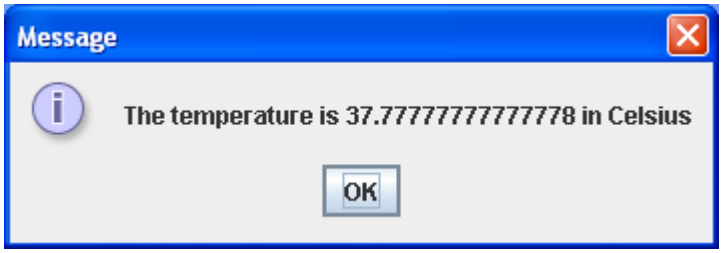

Figure 1-1-2

Did it work?

- Were you able to display the conversion of Fahrenheit degree into Celsius degree by using input dialog box and message dialog box?

Lab 1.2: Payroll

What is the purpose?

In this lab, you will write a program that reads the following information and prints a payroll statement:

- Employee's Name (for example, Smith)
- Number of Hours Worked in a Week (for example, 10)
- Hourly Pay Rate (for example, 6.75)
- Fed Tax Withholding Rate (for example, 20%)
- State Tax Withholding Rate (for example, 9%)
- Gross Pay = Hours * Hourly Pay Rate
- Fed Tax Withholding = Gross Pay * Fed Tax Withholding Rate
- State Tax Withholding = Gross Pay * State Tax Withholding Rate
- Total Tax Deduction = Fed Tax Withholding + State Tax Withholding
- Net Pay = Gross Pay – Total Tax Deduction

Write a program in two versions:

- Use console input and output.
- Use dialog boxes to obtain input and display output.

What are the steps?

- Task 1:

  Procedure

  1. Create a Java class and name the java file with .java extension.
  2. Import the javax.swing.JOptionPane package to create dialog boxes.
  3. Assign a string variable1 that gets the Name value from an input dialog box.
  4. Assign a string variable2 that gets the Hours value from an input dialog box.
  5. Assign a string variable3 that gets the Hourly Rate value from an input dialog box.
  6. Assign a string variable4 that gets the Fed Tax Withholding Rate value from an input dialog box.
  7. Assign a string variable5 that gets the State Tax Withholding Rate value from an input dialog box.
  8. Assign a double variable6 that gets the Gross Pay = Hours * Hourly Rate.
  9. Assign a double variable7 that gets the Fed Tax Withholding = Gross Pay * Fed Tax Withholding Rate.

10. Assign a double variable8 that gets the State Tax Withholding = Gross Pay * State Tax Withholding Rate.
11. Assign a double variable9 that gets the Total Deduction = Fed Tax Withholding + State Tax Withholding.
12. Assign a double variable10 that gets the Net Pay = Gross Pay – Total Deduction.
13. Assign a string variable11 that captures all the data for display.
14. Express the variable11 into a dialog message box.
15. Compile the java file using the javac command.
16. Execute the java class using the java command.
17. Save a copy of a screen shot of the output similar to Figure 1-2-1 and submit to your instructor.

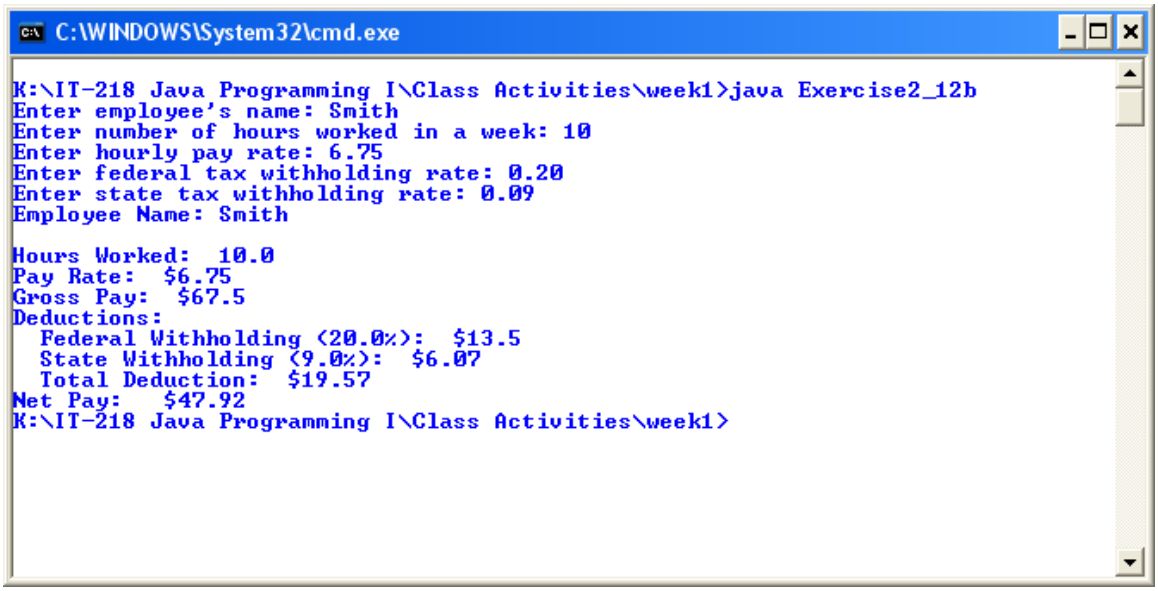

Figure 1-2-1

- Task 2:

Procedure

1. Repeat Steps 1-13 in Task 1 and skip Step 14.
2. Print all the data to the console.
3. Compile the java file using the javac command.
4. Execute the java class using the java command.
5. Save a copy of outputs similar to Figures 1-2-2 through 1-2-7 and submit them to your instructor.

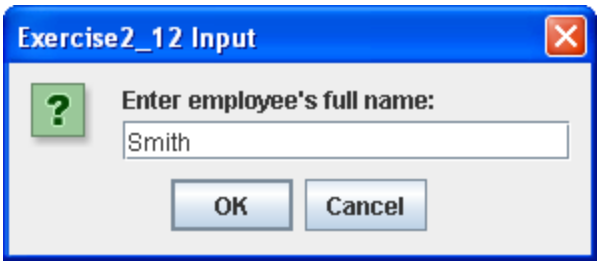

Figure 1-2-2

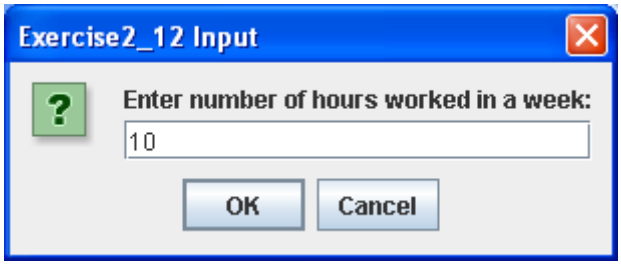

Figure 1-2-3

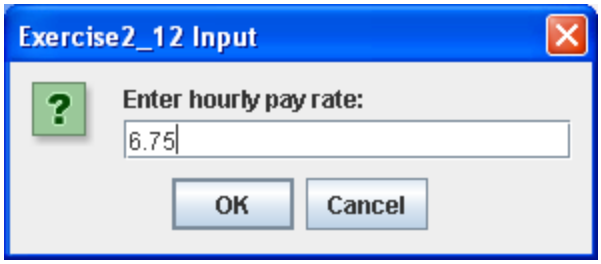

Figure 1-2-4

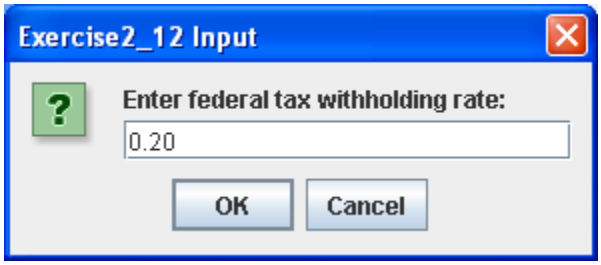

Figure 1-2-5

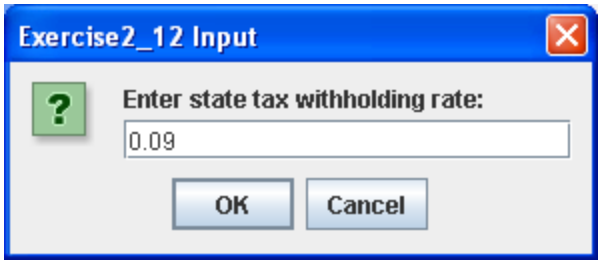

Figure 1-2-6

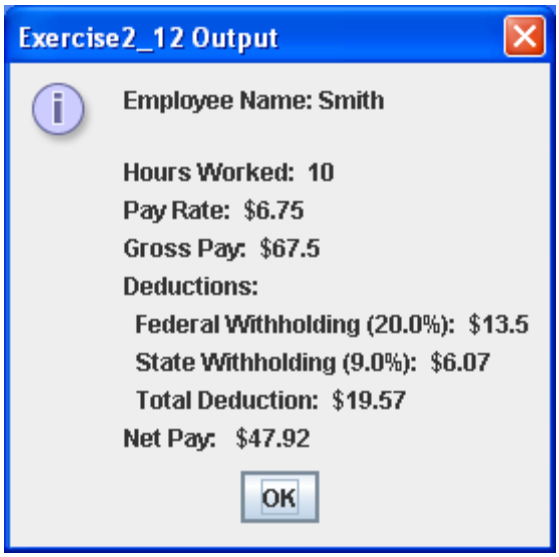

Figure 1-2-7

Did it work?

Were you able to—

- Display a payroll statement by using console input and output?
- Display a payroll statement by using dialog boxes for input and output?