Labs

Lab 4.1: The Stock Class

What is the purpose?

In this lab exercise, you need to design a class named Stock that contains:
- A string data field named symbol for the stock's symbol
- A string data field named name for the stock's name
- A double data field named previousClosingPrice that stores the stock price for the previous day
- A double data field named currentPrice that stores the stock price for the current time
- A constructor that creates a stock with specified symbol and name
- The accessor method for all data fields
- The mutator methods for previousClosingPrice and currentPrice
- A method named changePercent() that returns the percentage changed from previousClosingPrice to currentPrice

Write a test program that creates a Stock object with the stock ESI, the name for ITT Technical Institute, Inc., and the previous closing price of 60. Set a new current price to 65 and display the price-change percentage.

What are the steps?

- Task 1:
    ### Procedure
    1. Create a Java class and name the java file with a .java extension.
    2. Create a class called Stock.
    3. Create a method - public Stock().
    4. Create a method - public Stock(String symbol, String name).
    5. Create a method - public String getSymbol().
    6. Create a method - public String getName().
    7. Create a method - public double getPreviousClosingPrice().
    8. Create a method - public double getCurrentPrice().
    9. Create a method - public void setSymbol(String symbol).
    10. Create a method - public void setName(String name).
    11. Create a method - public void setPreviousClosingPrice(double price).
    12. Create a method - public void setCurrentPrice(double price).
    13. Create a method - public double changePercent().
    14. Express the result either to the console or a message dialog box.
    15. Compile the java file using the javac command.
    16. Execute the java class using the java command.
    17. Save a screenshot of the output similar to Figure 4-1-1 and submit it to your instructor.

```
Symbol: ESI
Name: ITT Technical Institute Inc.
Previous Closing Price: 60.0
Current Price: 65.0
Price Change: 0.08333333333333333
```

Figure 4-1-1

Did it work?

Were you able to—
- Display a stock's symbol by using the getSymbol() method?
- Display a stock's name by using the getName() method?
- Display a stock's previous closing price by using the getPreviousClosingPrice() method?
- Display a stock's current price by using the getCurrentPrice() method?

Lab 4.2: Displaying a Calendar

What is the purpose?

In this lab exercise, you need to rewrite the PrintCalendar class given in Listing 5.10 on pages 163-165 of your book to display the calendars in a message dialog box. Since the output is generated from several static methods in the class, you may define a static String variable output for storing the output and display it in a message dialog box.

What are the steps?

- Task 1:
    - **Procedure**
        1. Create a Java class and name the java file with .java extension.
        2. Import javax.swing.JOptionPane package to create dialog boxes.
        3. Modify the codes of PrintCalendar.java on pages 151-153 into the following methods.
        4. Declare a method - static void printMonth(int year, int month).
        5. Declare a method - static int getStartDay(int year, int month).
        6. Declare a method - static long getTotalNumOfDays(int year, int month).
        7. Declare a method - static int getNumOfDaysInMonth(int year, int month).
        8. Declare a method - static boolean isLeapYear(int year).
        9. Declare a method - static void printMonthBody(int startDay, int numOfDaysInMonth).
        10. Declare a method - static void printMonthTitle(int year, int month).
        11. Declare a method - static String getMonthName(int month).
        12. Express the result into a message dialog box.
        13. Compile the java file by the javac command.
        14. Execute the java class by the java command.

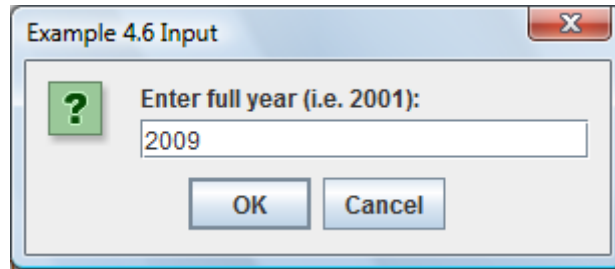15. Save screenshots of the output similar to Figures 4-2-1 through 4-2-3 and submit them to your instructor.
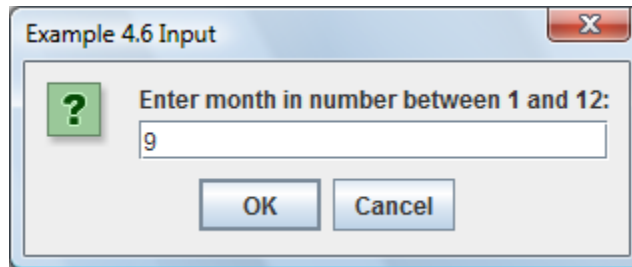
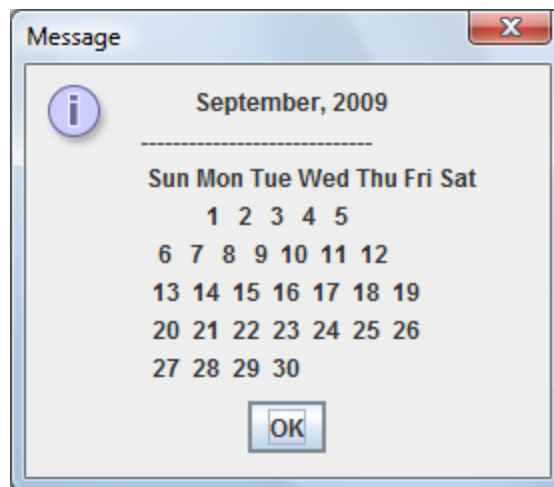

Figure 4-2-1

Figure 4-2-2

Figure 4-2-3

Did it work?

Were you able to—
- Capture an entry of year in a dialog box?
- Capture an entry of month in a dialog box?
- Display the calendar month in a message dialog box?