

Workshop 1 Exercises

Brush up your Java basic skills and Learn how to use NetBeans

The exercises below are from the recommended textbook, and netbeans.org

- Deitel & Deitel, 2015, Java How to Program: International Edition, 10/E, Pearson
- Full text is available from the University Library e-resources

Exercise 1: NetBeans IDE Java Quick Start Tutorial

This tutorial provides a very simple and quick introduction to the NetBeans IDE workflow by walking you through the creation of a simple "Hello World" Java console application. Once you are done with this tutorial, you will have a general knowledge of how to create and run applications in the IDE.

Visit the tutorial page from the URL below and follow the instructions.

<https://netbeans.org/kb/docs/java/quickstart.html>

Exercise 2

2.33 (Body Mass Index Calculator)- Deitel's page 69

Create a BMI calculator that reads the user's weight in pounds and height in inches (or, if you prefer, the user's weight in kilograms and height in meters), then calculates and displays the user's body mass index.

The formulas for calculating BMI are

$$BMI = \frac{weightInPounds \times 703}{heightInInches \times heightInInches}$$

or

$$BMI = \frac{weightInKilograms}{heightInMeters \times heightInMeters}$$

Also, display the following information from the Department of Health and Human Services/National Institutes of Health so the user can evaluate his/her BMI:

BMI VALUES	
Underweight:	less than 18.5
Normal:	between 18.5 and 24.9
Overweight:	between 25 and 29.9
Obese:	30 or greater

Hints: you may want to use the Java scanner class to get user input:

```
Scanner input = new Scanner( System.in );
```

Exercise 3

2.16 (*Comparing Integers- Deitel's page 67*) Write an application that asks the user to enter two integers, obtains them from the user and displays the larger number followed by the words "is larger". If the numbers are equal, print the message "These numbers are equal".

Exercise 4

6.30 (*Guess the Number- Deitel's page 238*) Write an application that plays “guess the number” as follows: Your program chooses the number to be guessed by selecting a random integer in the range 1 to 1000. The application displays the prompt Guess a number between 1 and 1000. The player inputs a first guess. If the player's guess is incorrect, your program should display “Too high. Try again.” or “Too low. Try again.” to help the player “zero in” on the correct answer. The program should prompt the user for the next guess. When the user enters the correct answer, display “Congratulations. You guessed the number!”, and allow the user to choose whether to play again.

[Note: The guessing technique employed in this problem is similar to a binary search, which is discussed in Deitel's Chapter 19, Searching, Sorting and Big O.]

Exercise 5: Another NetBeans tutorial: Developing General Java Applications

This short tutorial takes you through some of the basic steps of developing a Java SE application in NetBeans IDE. This tutorial assumes you already have some familiarity with developing Java applications. Along the way, you will see some of the IDE features that simplify application development.

You will create an application that converts several words into a single word that contains one letter from each of the other words. The resulting word is called an acrostic.

Visit the tutorial page from the URL below and follow the instructions.

<https://netbeans.org/kb/docs/java/javase-intro.html>