Practical 5 Name: Date:

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| Intro to Java | **Supervisor Signature** | **Completed** |
| Due date:18**th of October, 2016** |

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| **Assessment task** | **Comment** | **Completed** |
| *Practical preparation* |  |  |
| *Demonstrate code* |  |  |
| *Topic Review* | *not marked* |  |

# Aim

The aim of this practical is to design, write, test and debug programs in Java which use variables and input/output techniques.

Reference material:

* Lecture slides
* Deitel :
  + chapter 1.9 History of Java
  + chapter 1.13 Typical Java Development Environment
  + chapter 2 Introduction to Java Applications
  + chapter 4 and 5 Control Statements – reference only
* Extra resources:
  + Java Tutorial - <https://www.youtube.com/playlist?list=PLFE2CE09D83EE3E28>
  + JDK Install - <http://www3.ntu.edu.sg/home/ehchua/programming/howto/JDK_Howto.html>   
    and *How to setup Java.pdf*
  + CMD Command Shell - <http://www3.ntu.edu.sg/home/ehchua/programming/howto/CMD_Survival.html>

# Practical preparation

1. **Install the JDK and** Notepad++

The Java JDK can be found at <http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html>

\*\* You want the **NetBeans with JDK** \*\*

Follow the steps in *How to setup Java.pdf* .   
For more, go to <http://www3.ntu.edu.sg/home/ehchua/programming/howto/JDK_Howto.html>

1. Familiarise yourself with the CMD command Shell. See <http://www3.ntu.edu.sg/home/ehchua/programming/howto/CMD_Survival.html>

1. Use Notepad++ to open all of the examples provided in the code examples. Make sure that you can compile and run them.
2. ‘Break’ a couple of the code examples to familiarise yourself with compiler errors. Write down what you broke and insert here a screenshot of the cmd screen with the compiler error. Do this for at least three types of errors.

# Practical procedure

1. Save the file Addition1.java source code as Calculator.java and modify it so that you implement a basic calculator (addition, subtraction, multiplication and division).
2. Save the file Calculator.java as Calculator2.java, and this time use GUI to display the information  
   – see Addition2.java.
3. Write an application class that calculates the BMI of a person and displays its meaning.

The BMI is calculated based on the following formula:

| **Meaning** | **BMI** |
| --- | --- |
| Normal weight | 19–24,9 |
| Overweight | 25–29,9 |
| Obesity level I | 30–34,9 |
| Obesity level II | 35–39,9 |
| Obesity level III | ≥ 40 |

**BMI = x / (y \* y)**

Where:

x=bodyweight in KG

y=height in m

# Topic Review

1. Complete the Self-Review Exercises Chapter 2 from Deitel.

**Note:** we highly recommend that you do these exercises, as part of your learning process. We will not be marking these, as the solution is in the text.