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| **CS1101 Lab 11 – Let’s get familiar with Recursion** |

**Released on: Monday October, 23**   
**Due on: Monday October, 30**  
**How:** submit on Piazza in folder lab11  
**What:** a word file where you traced the code given to you

**Objective of this lab:** Provide you with tracing practice on recursion.

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| In this lab, you are given, in lab11.java, recursive methods that are used in the main method.  You will have to trace the way each of these methods is used in the main method, step by step as instructed by your TA in lab. |

**So here is what you are going to do:**

**1/ Compile and execute lab11.java** to get familiar with the functionalities provided to you.

**2/ Get familiar with the way the recursive methods provided to you are called in the main method.** Make sure you understand what each of these methods does.

**3/ For each method provided to you, in a word document,** named YourLastNameYourFirstName-lab11.docx, do the following:

**3.1/ Describe the base case(s) as well as the recursive call(s) of this method**

**3.2/ Trace this method executions as called in the main method.** Do so step by step to allow following the recursive calls and the use of the base cases. Pay attention: some methods are used more than once in the main method. You need to trace each of these executions.

**What do you have to turn in?** Your **YourLastNameYourFirstName-lab11.docx** file that is as follows. For each method provided to you (except the main method):

1/ Clearly point out its **base case(s)** and **recursive call(s)**.

2/ The **step-by-step tracing of each of its executions** from the main method. *Be careful: tracing the main method and showing what is printed out while the execution of the main method is very different from tracing each of the methods that are called.*

**Criteria for grading:**

**0/ [10 pts]** Your lab is submitted according to specifications (proper file name, proper format)  
**1/ [25 pts]** Work on each of the first 3 methods as described above  
**2/ [15 pts]** Work on the last method as described above