**OOP Lab 9**

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| Name: |  | Department: |  |
| Student ID: |  | Room Number: |  |
| Due Date: | **May, 11 :** | | |

* Submit your assignment using the following file format:

LabNumber\_StudentName.zip (eg. Lab9\_Hongkildong.zip).

* This zip file will contain two types of files, namely:

1. Report file with file format “Report\_Lab number” (eg. report\_9) to answer theory questions and to write the screen shot of your program.
2. Source code file that contains codes of classes to answer programming questions.

**I. Objectives**

1. Learning the usage of Exception.

2. Learning the difference between **Checked Exception** and **Unchecked Exception**.

3. Learning the structure of **Exception** and **terminatio**n models.

**II. Exercises (15 points)**

1. **Answer the following questions after executing the code in Fig 11.3**
   1. At which line number the “ **InputMismatchException** ” occur? (**1 point**)
   2. Why the “**InputMismatchException**” occurs? (1 point)
   3. At which line number the “**ArithmeticException”** occurs? (1 point)
   4. Why the “**ArithmeticException**” occurs. (1 point)
2. **Answer the following questions about the program in Fig 11.3**
   1. Before line 34, **add** the following catch block and compile the program. Explain what happens and explain why this happens (including only explanation, **2 points**)

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| catch (**RuntimeException** re)  {  System.err.printf("%n Exception: %s%n", re) ;  } |

* 1. Replace the **second** catch block (Fig.11.3) by the following catch block. Then **enter** input similar values as shown in the example and execute the program. **Explain** what result you observed and explain why such type of results occur (including the **reason** and **screen shot of the result , 2 points**)

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| **Catch** (RuntimeException re)  {  System.err.printf("%nException: %s%n", re);  } |

1. After deleting “**throws Exception**” at line 21(Fig 11.5), compile the program. Explain why a problem happens (**including only explanation, 2 points**)
2. After **running**  the following code, explain the reason why you got this result (including your reason and screen shot of the result, **3 points**)

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| // **A.java**  1. public class **A**  2. {  3. public static void **main**(String[] args)  4. {  5. try  6. {  7. System.out.println("A");  8. **m();**  9 . System.out.println("B");  10 }  11. catch(Exception e)  12 {  13. System.out.println("C");  14. }  15. finally  16. {  17. System.out.println("D");  18. }  19. }// end of main() method  21 public static void **m**()  22. {  23. System.out.println("E");  24. if(true)  25. **throw new RuntimeException**();  26. System.out.println("F");  27 }  28 }**// end of class** |

1. **When you compile the following program, an error occurs.**
   1. Explain **why** the error happens.
   2. In order to do **normal** operation, **add** the exception handling code using two ways. In your report, include screen shot of errors, explanation for the occurrence of the error, screen shot of the normal code (without error). Include also the source code of the normal code in the source file (**4 points**)

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| **import** java.io.\*;  **class** Demo1  {  **public** **static** FileInputStream **CreateFile**(String **fileName**)  {  FileInputStream **fis2** = **new** FileInputStream(**fileName**);  System.*out*.println("File input stream is created");  **return** **fis2**;  }  **public** **static** **void** main(String args[])  {  **FileInputStream fis1 = null;**  String **fileName** = "foo.bar";  System.*out*.println("File name is " **+** fileName);  Fis1 = ***CreateFile***(**fileName**);  System.*out*.println("End of the program");  }  **}** |