The folder Excel (CO880) is comprised of 3 sub-folders:

* CLASSES & MESSAGES: referring to those Excel files whose Figures have been used in Chapter 3 and in the APPENDIXES, to illustrate the most problematic runtime exception *classes* (i.e., the 'Exception Classes.xlsx'), and within those identified most problematic 'runtime exception classes' errors, the most prevailing 'exception errors *messages*' categories[[1]](#footnote-1) (i.e., all the remaining .xlsx files except from the 'Exception Classes.xlsx') that encompassed the largest percentage share of constructs' errors.
* TOTAL & USERS INSTANCES: referring principally to the 'Analyzing\_Exceptions (USERS SESSIONS FILTERED).xlsx' file whose Figures/Tables have been used in Chapter 3, after retrieving via the 'MySQL for Excel' add-in, the ArrayIndexOutOfBoundsException, StringIndexOutOfBoundsException and IndexOutOfBoundsException classes '*Total Number*' of Instances and '*Users Number*' data ‒ subsequently used to calculate the '*Average-Number of Errors (per-user)*' values for each of those classes respectively; this file’s errors data (unlike the cases of the 'CLASSES & MESSAGES' Excel files above), derived from MySQL queries using a different time-period (termed as 'User Lifetime')[[2]](#footnote-2), and more specifically ‒ the time-difference between the time that each individual participant subject user had opted-in to participate in Blackbox, until the time that this participant subject user’s exception error occurred (was thrown). In addition, in the 'Analyzing\_Exceptions (USERS SESSIONS FILTERED).xlsx' file (unlike the cases of the 'CLASSES & MESSAGES' Excel files above), the MySQL queries used to provide the data, had been further filtered to include: i) those Blackbox participant subject users whose lifetime-interaction with the BlueJ IDE had more than 1 session, and ii) those errors which derived from standard Java libraries, and from exception-message type categories having the highest number of error instances (under appropriate thresholds). Lastly, this folder contains except from the 'Analyzing\_Exceptions (USERS SESSIONS FILTERED).xlsx' file, all those runtime exception classes .xlsx files which had formerly retrieved the '*Total Number*' of Instances ‒ also using the same 'User Lifetime' time period as with the 'Analyzing\_Exceptions (USERS SESSIONS FILTERED).xlsx' file’s query above – but without having been filtered to include solely, those Blackbox participant subject users whose lifetime-interaction with the BlueJ IDE had more than 1 session; thus containing users with 1 and more than 1 sessions.
* CONTENT: referring to this Excel file[[3]](#footnote-3) whose Figures/Tables have been used in Chapter 5, after retrieving via the 'MySQL for Excel' add-in, the sample of those participants' actual error-cases, whose packages' source-files upon loading in BlueJ contained the complete source-code text content which led to the ArrayIndexOutOfBoundsException errors; the query of the 'CONTENT.xlsx' file’s data, had used the same 'User Lifetime' time period as with the 'TOTAL & USERS INSTANCES' file’s queries above, as additionally the same filtering patterns (i.e., instances of Blackbox participant subject users whose lifetime-interaction with the BlueJ IDE had more than 1 session, and whose instances derived from exception-message type categories having the highest number of errors with appropriate thresholds, stemming only from standard Java libraries).

1. The term exception message refers to the short descriptive message text following the name of the exception, contained in the first line of information displayed in response to the invalid input (stack-trace) that led to the exception. The idea for this subsequent data analysis over the exception message types, stemmed from the logic that the procurement of these supplementary elaborated data, would provide *more information about the reasons* why the most problematic 'runtime exception-classes' augmented error instances had occurred; and consequently, similarly why the associated numerous constructs' errors (encompassed within those exceptions) had been also generated. [↑](#footnote-ref-1)
2. Not simply the time-period when the exception error had occurred (was thrown). [↑](#footnote-ref-2)
3. (as well as to those source-file folders ‒ which although already contained inside the 'CONTENT.xlsx' file ‒ have been additionally provided separately for better readability/clarity purposes). [↑](#footnote-ref-3)