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Preface

As the usage of computers to solve complex problems becomes more commonplace, there is a need to understand how to use software to solve both basic and more complicated engineering problems, especially in statistics. One of the most common industrial software for handling data is Excel®, a programme originally developed to create spreadsheets and handle basic accounting operations that has since expanded to include more complex capabilities. In the industrial world, Excel is often the default engineering standard for data processing and manipulation. Thus, there is a need to understand how to implement the various statistical concepts easily and effortlessly in Excel.

This companion book is meant to focus on providing the examples and details for solving statistical examples using Excel. The theoretical details and background information can be found in the author's acclaimed book *Statistics for Chemical and Process Engineers: A Modern Approach* (https://link.springer.com/book/10.1007/978-3-030-83190-5) now in its second edition. The companion book is structured so that the individual chapters reflect the material presented in the original book, which makes looking for the details easier and faster.

In order to show clearly the Excel code and functions, these will be typeset in `Courier New`. It assumed that all cells have been labelled using the variable provided in square brackets before the equals sign. As well, it is assumed that in tables and examples, the Excel variables flow from top to bottom which means that a variable previously defined in a row or line of code above will mean the same later on, for example, if we see `[A] = sqrt(5)`, then later when we see `[B] = A^2`, we can assume that the reference is to the same `A`. In tables, the user input is defined at the bottom of the table and will normally refer to the

variables as defined by some mathematical equations. Finally, if a cell is defined as a specific location, for example, C1, then it can be assumed that when being dragged down or across cells, the values will change based on the definition in the formulae.

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