Preface

When folks ask me what I do for a professional career, I usually tell them, "I write books about computers." For those who are computer literate, the discussion usually continues this way:

Them: "What subjects have you written about?"

Me: "Mostly about using Microsoft Excel."

Them: "Like using Excel to do what?"

Me: "Analyze data. In fact, I'm currently working on a book that will cover analyzing data using the Excel what-if tools."

Them: "What-if tools?' What are those?"

Me: "Goal Seek, data tables, scenarios, and Solver."

Them: "Hmm . . . I've never heard of those. What are they?"

At this point, because I really enjoy teaching people, it's very tempting to jump into computer-instructor mode and bend someone's ear for ten minutes about the Excel what-if tools. However, I know better than to do that. I've learned that the best way to explain these types of things to others is to first start by describing what kinds of problems that they were designed to address. Using this approach, here's a simple, brief way to describe the Excel what-if tools:

- You use Goal Seek in Excel when you want to work backward from a solution to a problem—when you know the result of a single worksheet formula but not the input value that the formula needs to figure out the result. For instance, Goal Seek would be a good way to get a rough estimate of how much you could afford to pay for a home mortgage if you already know the mortgage's interest rate, the mortgage term, and how much you were willing to pay on the mortgage each month.

- Data tables are helpful when you want to view and compare the results of all of the different variations of a formula on a worksheet. A simple example of this might be one of those multiplication tables or metric conversion tables that you learned in school.

- Scenarios are a great tool for saving, in a worksheet, sets of values that Excel can switch between automatically so that you view different results. For instance, you could create best-case and worst-case scenarios, and then compare these scenarios' results next to each other.

- You use Solver when you want to work backward from a solution to a problem. It's similar to Goal Seek, but you use Solver when you also want to apply restrictions on the problem. Using the previous Goal Seek example, you could use Solver if you wanted to further restrict the total home price to not exceed a certain price.

This book is packed full of tutorials and exercises to help you learn about and master the Excel what-if tools at your own pace. My hope is that you will use this book first as a tutorial to learn about the tools, and then come back to it often as you need further help or simply a technical refresher.

I hope you enjoy reading and using this book as much as I enjoyed writing it.

Best wishes,
Paul Cornell