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Introduction

You cannot predict nor control what you cannot measure.
***—Fenton and Pfleeger* [1]**

When you can measure what you are speaking about, and express it in numbers, you know something about it, but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind.
—Lord Kelvin, 1900

1.1 OBJECTIVE

Suppose you are a software manager responsible for building a new system. You need to tell the sales team how much effort it is going to take and how soon it can be ready. You have relatively good requirements (25 use cases). You have a highly motivated team of five young engineers. They tell you they can have it ready to ship in four months. What do you say? Do you accept their estimate or not?

Suppose you are responsible for making a go/no-go decision on releasing a different new system. You have looked at the data. It tells you that there are approximately eight defects per thousand lines of code left in the system. Should you say yea or nay?

So how did you do at answering the questions? Were you confident in your decisions?

The purpose of this textbook is to give you the tools, data, and knowledge to make these kinds of decisions. Between the two of us, we have practiced software development for over fifty years. This book contains both what we learned during those fifty years, and what we wished we had known. All too often, we were faced with situations where we could rely only on our intuition and gut feelings,

Software Measurement and Estimation, by Linda M. Laird and M. Carol Brennan