FIGURE e1.13.1 ENIAC, the world’s first general-purpose electronic computer.

Figure e1.13.2 UNIVAC I, the first commercial computer in the United States. It correctly predicted the outcome of the 1952 presidential election, but its initial forecast was withheld from broadcast because experts doubted the use of such early results.

Figure e1.13.3 IBM System/360 computers: models 40, 50, 65, and 75 were all introduced in 1964. These four models varied in cost and performance by a factor of almost 10; it grows to 25 if we include models 20 and 30 (not shown). The clock rate, range of memory sizes, and approximate price for only the processor and memory of average size: (a) model 40, 1.6 MHz, 32 KB–256 KB, $225,000; (b) model 50, 2.0 MHz, 128 KB–256 KB, $550,000; (c) model 65, 5.0 MHz, 256 KB–1 MB, $1,200,000; and (d) model 75, 5.1 MHz, 256 KB–1 MB, $1,900,000. Adding I/O devices typically increased the price by factors of 1.8 to 3.5, with higher factors for cheaper models.

Figure e1.13.4 Cray-1, the first commercial vector supercomputer, announced in 1976. This machine had the unusual distinction of being both the fastest computer for scientific applications and the computer with the best price/performance for those applications. Viewed from the top, the computer looks like the letter C. Seymour Cray passed away in 1996 because of injuries sustained in an automobile accident. At the time of his death, this 70-year-old computer pioneer was working on his vision of the next generation of supercomputers. (See www.cray.com for more details.)

Figure e1.13.5 The Apple IIe Plus. Designed by Steve Wozniak, the Apple IIe set standards of cost and reliability for the industry.

Figure e1.13.6 The Xerox Alto was the primary inspiration for the modern desktop computer. It included a mouse, a bit-mapped scheme, a Windows-based user interface, and a local network connection.

Figure e1.13.7 Characteristics of key commercial computers since 1950, in actual dollars and in 2007 dollars adjusted for inflation. The last row assumes we can fully utilize the potential performance of the four cores in Barcelona. In contrast to Figure 1.13.3, here the price of the IBM S/360 model 50 includes I/O devices. (Source: The Computer History Museum and Producer Price Index for Industrial Commodities.)