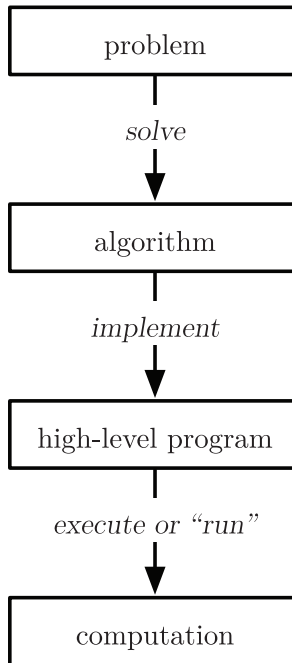Figure 1.1 Some examples of computational problems.

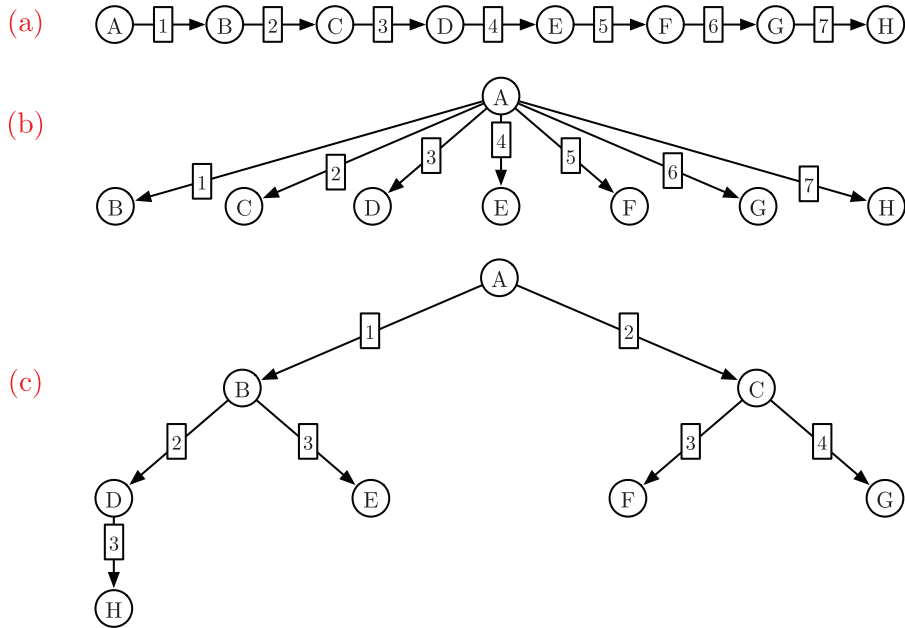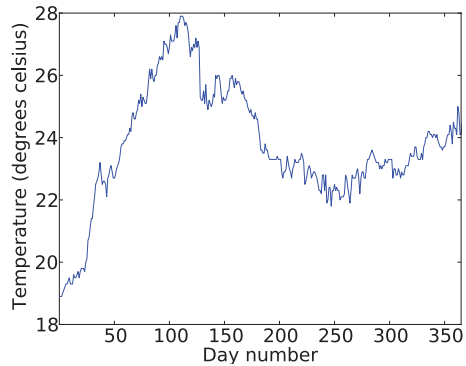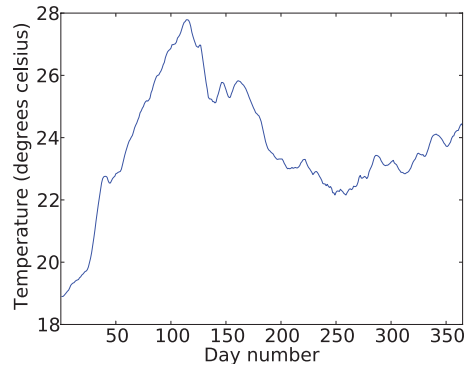Figure 1.2 The layers of functional abstraction in a computation.

Figure 1.3 Illustrations of three possible phone tree algorithms. Each name is represented by its first letter, calls are represented by arrows, and the numbers indicate the order in which the calls are made.
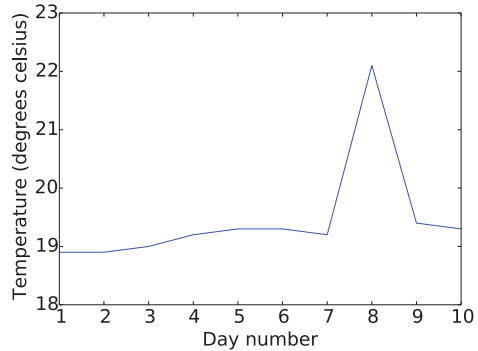
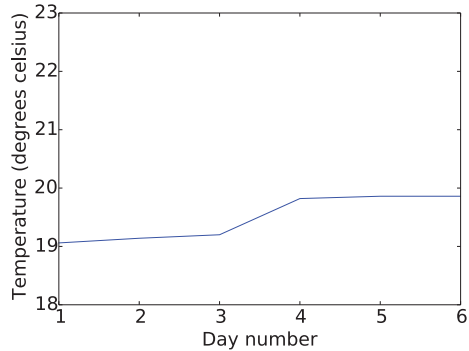Figure 1.4 Plot of (a) a year's worth of daily high temperature readings and (b) the temperature readings smoothed over a five-day window.

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(a) (b)

Figure 1.5 Plot of (a) the ten high temperature readings and (b) the temperature readings smoothed over a five-day window.
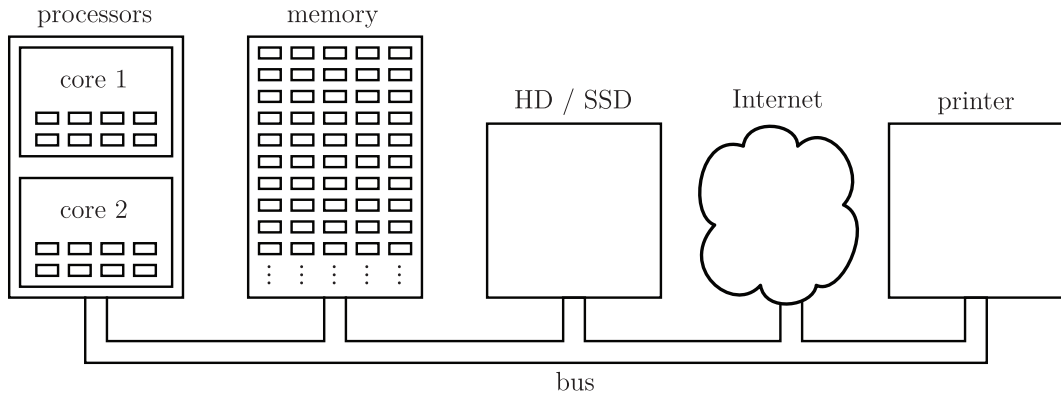
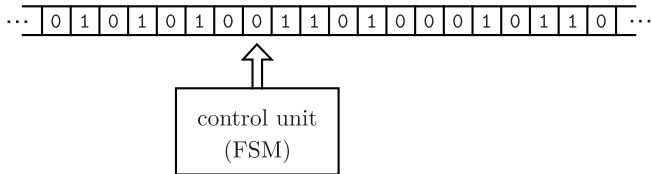Figure 1.6 A simplified schematic diagram of a computer.

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Figure 1.7 A schematic representation of a Turing machine.

```
┌─────────────────────────┐
│        problem          │
└─────────────────────────┘
            │ solve
            ▼
┌─────────────────────────┐
│       algorithm         │
└─────────────────────────┘
            │ implement
            ▼
┌─────────────────────────┐
│   high-level program    │
└─────────────────────────┘
       compile or interpret
            ▼
┌─────────────────────────┐
│    machine language     │
│        program          │
└─────────────────────────┘
        execute or "run"
            ▼
┌─────────────────────────┐
│     computation on      │
│   processor + memory    │
│   using Boolean logic   │
└─────────────────────────┘
```
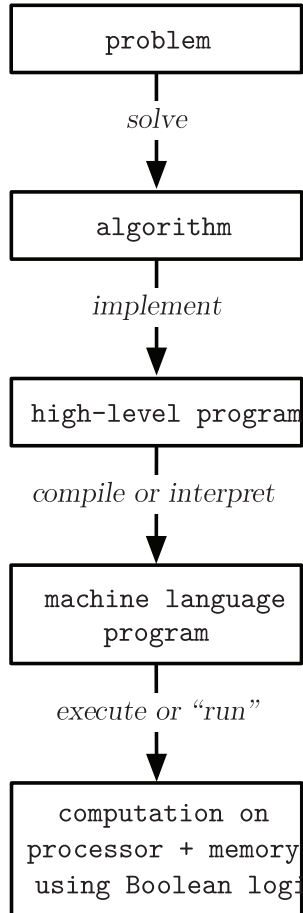
Figure 1.8 An expanded (from Figure 1.2) illustration of the layers of functional abstraction in a computer.

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