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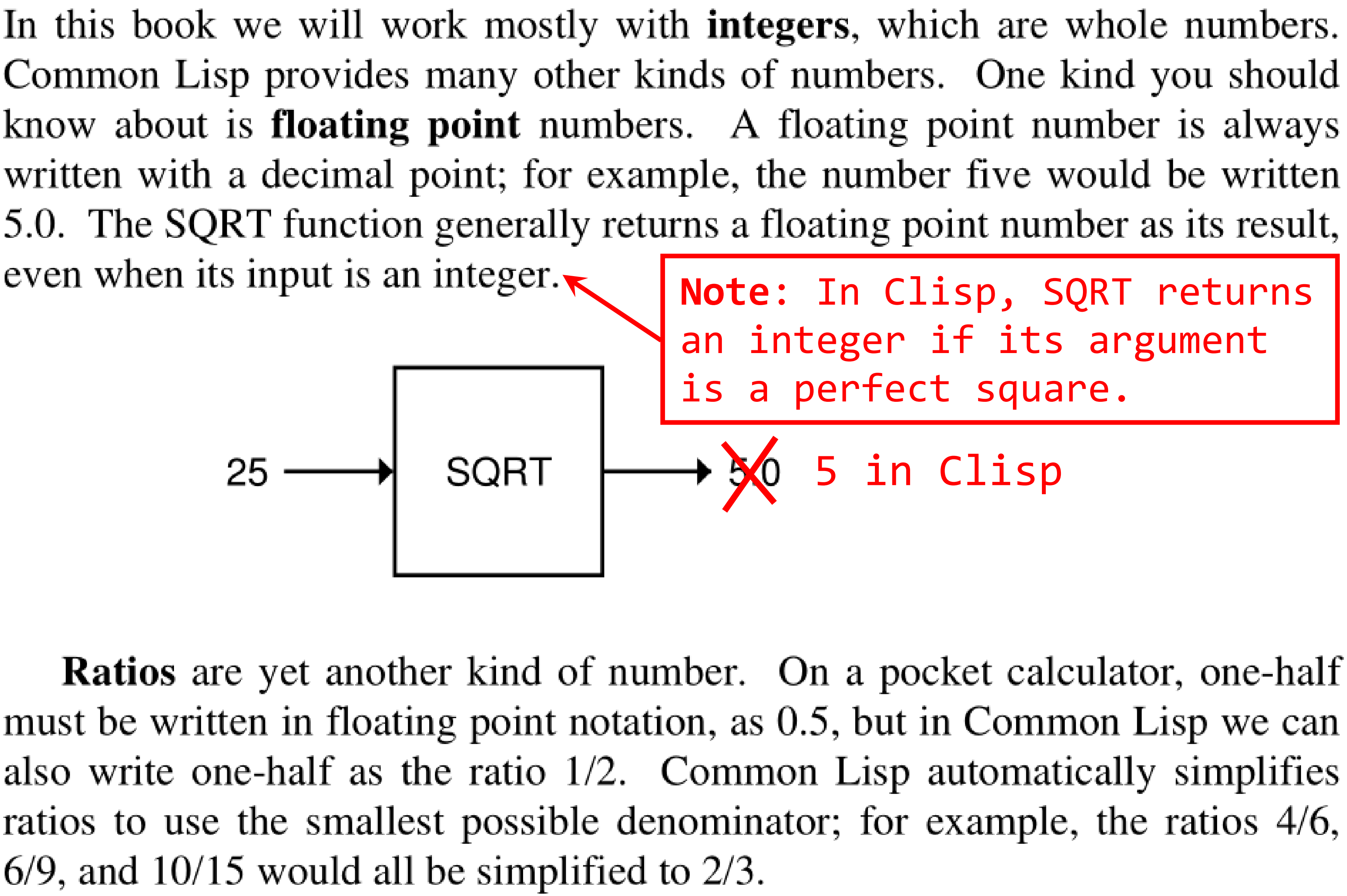
From p. 3 of Touretzky:



In this book we will work mostly with **integers**, which are whole numbers. Common Lisp provides many other kinds of numbers. One kind you should know about is **floating point** numbers. A floating point number is always written with a decimal point; for example, the number five would be written 5.0. The SQRT function generally returns a floating point number as its result, even when its input is an integer.

Note: In Clisp, SQRT returns an integer if its argument is a perfect square.

5 in Clisp

Ratios are yet another kind of number. On a pocket calculator, one-half must be written in floating point notation, as 0.5, but in Common Lisp we can also write one-half as the ratio 1/2. Common Lisp automatically simplifies ratios to use the smallest possible denominator; for example, the ratios 4/6, 6/9, and 10/15 would all be simplified to 2/3.

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  Example: The function sqrt expects just one argument, so evaluation of (sqrt 4 5) produces a **Break** ... **>**.

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  For example, if you plan to use $2^{31} - 1$ as a test argument value several times, then you can use SETF to store $2^{31} - 1$ in a variable that will be used as the actual argument each time.

Ratios

Ratios (a type of number that represents fractions)

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