



Math for the people, by the people.

iterator

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An *iterator* is a variable that one by one takes on all the values (usually integers) in a given range. The letter i is often used for iterators (though that letter is overloaded as the imaginary unit), j is often used as a second iterator.

In mathematics iterators are most often used in sum and product notation. For example, in

$$\prod_{i=3}^7 42i^2$$

the iterator i takes on values from 3 to 7.

In computer programming languages iterators are often associated with the "for" reserved word, e.g., "FOR I = 1 TO 47" in BASIC, "for (i = 1; i < 48; i++)" in C++. In Mathematica, iterators are often given in curly braces together with an (omittable) initial value and a required finish value separated by commas, e.g., "Table[2^n - 1, {n, 2, 48}]".