A for-each loop allows a programmer to express the instruction, "give me each element of this array, one at a time" without having to deal with an index at all, and therefore not having to be concerned about declaring, initializing, or updating it. The following code, for example, uses a for-each loop to perform the same task as the above for loop:

String[] names = { "fred", "jane", "eric" };   
  
for ( String name : names )   
{   
  System.out.println( name );   
}

Every for-each loop has four components, none of which may be omitted, as follows:

    for ( declaration : expression )  
      body

|  |  |
| --- | --- |
| for | The Java keyword that, together with the presence of a colon (and the absence of semicolons) in the parenthesized code that follows, identifies this piece of code as a for-each loop. |
| body | **The *loop body*:** a statement or block of statements. This code is executed once during each iteration of the loop. |
| declaration | **The *loop variable declaration*:** the declaration of the variable to which each element of the array or collection that is the value of expression is assigned during successive iterations of the loop. (The declaration has the form of a data type — such as int, String, or boolean — followed by a variable, known as *the loop variable*.) |
| expression | **The *loop collection expression*:** a [statement expression](http://pages.eimacs.com/eimacs/mainpage?epid=E2163740191&cid=162149#StateExp) such that the value of the corresponding statement is either an array or some other collection that is "iterable". (This array or "iterable" collection is known as *the loop collection*.) |

Warnings:

* The loop variable of a for-each loop is not visible once execution of the loop has terminated. (Recall that the same is true of any variable that is declared within the initialization code or the update code of a for loop.)
* The order in which a for-each loop references the elements of the loop collection is not prescribed; all that is guaranteed is that each element is referenced exactly once.