**Iteration – Ruby Rails**

Below are some of the Ruby Iterators and a small description on how they can/may be used.

**times**

Iterate through the block 3 times, n starts at 0 and ends at 2 and is incremented by 1 each time.  
n is the block variable.



## upto

Iterate through the block 3 times, starting at 1 and ending at 3, each time incrementing by 1.  
n is the block variable.



## downto

Iterate through the block 3 times, starting at 3 and ending at 1, each time decrementing by 1.  
n is the block variable.



## Ranges and the each iterator

Iterate through the block 3 times by specifying a Range starting at 1 and ending at 3, each time incrementing by 1. A Range (1..3) is specified and is actually an object of type ‘Range’.



## step

Iterate through the block a range of 2 through 10 times, starting at 2 and ending at 10, each time incrementing by the step specified (2 in this case). A Range (2..10) is specified and is actually an object of type ‘Range’.  
n is the block variable.



## each\_line

Iterate through the block however number of newlines there are in the String specified. The each\_line iterator can be used with Strings only since Strings have newlines and it doesn’t make sense for other objects to have newlines.  
line is the block variable.



## each\_byte

Iterate through the block however number of characters there are in the String specified. The byte form of the character is passed into the block as a parameter one\_byte and is converted to its character equivalent before being printed to the screen.  
one\_byte is the block variable.



## each\_index

Iterate through the block however number of elements there are in the array, passing the index of the elements to the block as an argument i. By contrast, theeach iterator would have passed in the value of each element itself rather than the index.  
i is the block variable.

