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Ruby 101

Advanced Ruby:Thread Queues

Passing data between threads:

We could access a variable defined in a larger scope:
- unintended consequences
- synchronization difficult

OR

The Queue class:
- provides a method for:
  - pushing objects on an off of a queue
  - keeping data between threads in sync
  - pause a thread to wait for another thread

Creating a queue

```
require 'thread'
my_queue = Queue.new
```

Using the Queue:

```
my_queue.push object      => Adds object to queue
my_queue << object

object = my_queue.pop     => Retrieves object
                           blocks thread until
                           an object is available
```

Using the Queue:

`.clear`	=> clears the queue
`.size` OR `.length`	=> The length of the queue
`.num_waiting`	=> number of threads waiting
`.empty?`	=> True if the queue is empty

Remaking our Tick Tock program:

```
require 'thread'
my_queue = Queue.new
my_var = ""
my_thread = Thread.new do
        10.times do
                my_queue << "tock"
        end
end
10.times do
        my_var += "tick"
        my_var += my_queue.pop
        puts "Value: \t#{my_var}"
end
```

Try it yourself:

Think about how we might make our log parsing program multi-threaded. What would it take to display a progress bar during the file load operations?