Conceptual Algorithms

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github.com/mojombo

Identify the problem

Propose Solutions

Evaluate benefits and consequences

Select the best solution

Problem Solving

chronic

god

fixture scenarios

fuzed

grit

Powerset

~~Powerset~~

Microsoft

GitHub

Scientific Method

Define the question

Gather information and resources (observe)

Form hypothesis

Perform experiment and collect data

Analyze data

Interpret data and draw conclusions that serve as starting point for a new hypothesis

Publish results

Start over with
new hypothesis

e.g. god

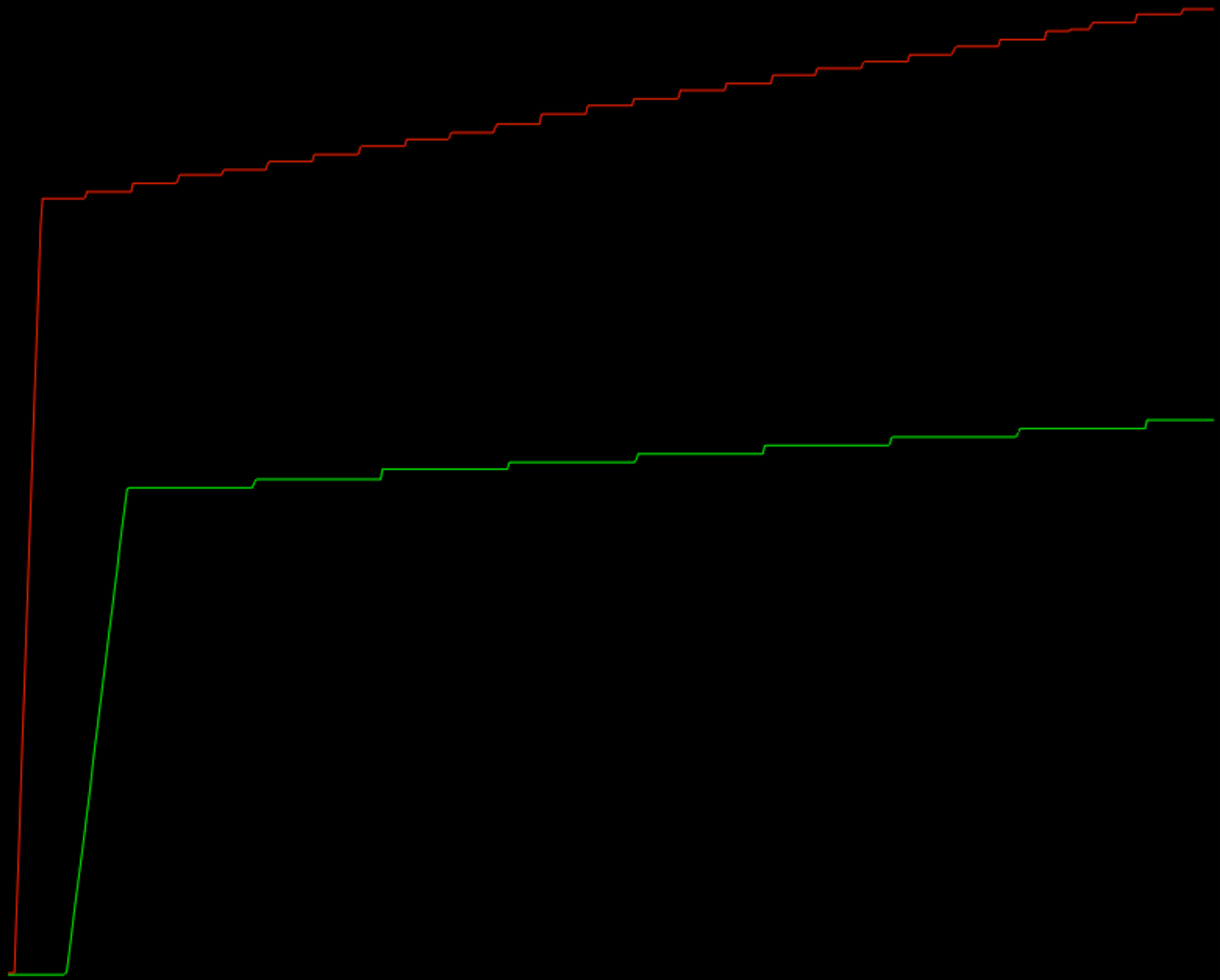
How NOT to do science

science and god

~~science and god~~

science and god.rb

* Have a Control Case



memory in kb (second)

8088 (0)

8136 (1)

8188 (2)

...

437788 (9998)

437832 (9999)

437868 (10000)

* Define a Methodology

(and stick to it)

Define the question

Gather information and resources (observe)

/proc/<pid>/status

VmStk: 228 kB
VmData: 234948 kB
VmPeak: 297144 kB
VmSize: 297132 kB
VmLck: 0 kB
VmHWM: 206344 kB
VmRSS: 206336 kB
VmExe: 772 kB
VmLib: 5000 kB
VmPTE: 584 kB

Form hypothesis

Perform experiment and collect data

5220649 total births, 5220403 total deaths, 611 uncollected objects.

Tags sorted by persistent uncollected objects. These objects did not exist at startup, were instantiated by the associated tags, and were never garbage collected:

end-driver leaked (over 44350 requests):

178 String

146 Array

111 Time

4 MatchData

3 God::DriverEvent

begin-driver leaked (over 44355 requests):

29 String

3 Array

1 NoMethodError

Analyze data

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begin-driver leaked (over 44355 requests):
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3 Array
1 NoMethodError

Interpret data and draw conclusions that serve as starting point for a new hypothesis

Publish results

Start over with
new hypothesis

Form hypothesis

Perform experiment and collect data

memory in kb (second)

7604 (1)
7604 (2)
7604 (3)

...

7588 (9998)
7588 (9999)
7588 (10000)

Analyze data

Interpret data and draw conclusions that serve as starting point for a new hypothesis

Publish results

```ruby
def base_name
  self.class.name.split('::').last
end
```

```ruby
def base_name
  x = 1
  self.class.name.split('::').last
end
```

```ruby
class Bar
  def self.class_name
    name.split(/::/)
  end
end

loop { Bar.class_name }
```

Announcing...

gist

I <3 Demos

gist.github.com

gist / tsig

```
git clone
git://gist.github.com/21.git
```

```ruby
require 'logger'
log = Logger.new(STDOUT)
threads = []

10.times do
  threads << Thread.new do
    loop do
      log.info("foo")
    end
  end
end

threads.each { |t| t.join }
```

```
diff --git a/lib/god/logger.rb b/lib/god/logger.rb
index 7150fca..6f55d1c 100644
--- a/lib/god/logger.rb
+++ b/lib/god/logger.rb
@@ -1,7 +1,7 @@
 module God
   class Loggy
     DEBUG = 0
-    INFO = 1
+    INFO = 3
     WARN = 2
     ERROR = 3
     FATAL = 4
```

Memory Initialization

e.g. George Dantzig

e.g. chronic

today at 4:20pm

this day at 4:20 pm

grabber repeater separator repeater repeater

Iteration

e.g. James Dyson

Vaporset Corollary

Hard problems take a long time

e.g. Charles Darwin

e.g. Powerset

Breadth First Search

There are more than 2500 programming languages

Sapir-Whorf for Robots

e.g. Fuzed

Imagining the Ideal Solution

e.g. god config

```
%w{8200 8201 8202}.each do |port|
  God.watch do |w|
    w.name = "mongrel-#{port}"
    w.interval = 30.seconds
    w.start = "mongrel_rails start ..."
    w.stop = "mongrel_rails stop ..."
    w.restart = "mongrel_rails restart ..."
    w.pid_file = "/var/run/mongrel.#{port}.pid"

    w.start_if do |start|
      start.condition(:process_running) do |c|
        c.interval = 5.seconds
        c.running = false
      end
    end

    ...
  end
end
```

Dedicated Thinking Time

e.g. Gravatar


ECHIBEXBOA

The Cash Filter

e.g. GitHub

The Deathbed Filter

Thank you