



# Lecture 36: Modeling Computing

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# How convincing is our Halting Problem proof?

```
(define (contradict-halts x)
  (if (halts? contradict-halts)
      (loop-forever)
      #t))
```

contradicts-halts cannot exist. Everything we used to make it except halts? does exist, therefore halts? cannot exist.

This “proof” assumes Scheme exists and is consistent!

# DrScheme

Is DrScheme a proof that Scheme exists?

```
(define (make-huge n)
  (if (= n 0) null
      (cons (make-huge (- n 1))
            (make-huge (- n 1)))))
(make-huge 10000)
```

Scheme/Charme/Python/etc. all fail to evaluate some program