#7 Scheme

TA: Jerry Chen (jerry.c@berkeley.edu)
Pick a random number between 1 and 10 (inclusive)

28 responses

- 1: 3 (10.7%)
- 2: 3 (10.7%)
- 3: 3 (10.7%)
- 4: 1 (3.6%)
- 4.6: 1 (3.6%)
- 5: 1 (3.6%)
- 6: 2 (7.1%)
- 4.9827633332: 4 (14.3%)
- 7: 5 (17.9%)
- 8: 3 (10.7%)
- 9: 1 (3.6%)
- 10: 1 (3.6%)
Pick a random number between 1 and 10 (inclusive)

28 responses

<table>
<thead>
<tr>
<th>Number</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
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<td>7</td>
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<td>8</td>
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<tr>
<td>9</td>
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<td>3.6%</td>
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<tr>
<td>10</td>
<td>1</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Oops
Bias towards odds
Prime number bias?
Help 😊

I'm trapped in an interpreter

---

(demo 'songs)
(demo-song <name> [times] [tempo]) to play a song
Available songs: ode-to-joy, sarias-song, kakariko-village,
song-of-storms, fight-for-california

To load a song from a GitHub Gist, use:
(gist-song <gist-id> <name> [times] [tempo])

Preparing song...
Loading accordion...
Loading tango_accordion...
Loading oboe...
Loading vibraphone...
Loading percussion...
Playing...
Staff Interpreter

scheme.cs61a.org

```scheme
scm> (autodraw)
When interactive output is a pair, it will automatically be drawn.
(disable-autodraw) to disable
scm> '(1 2 . 3)
(1 2 . 3)
```

```
1 2 3
```

```
scm> (cons 1 '(2 3))
(1 2 3)
```

```
1 2 3
```

```
1 2 3
```

```
scm> |
```
Quoted Expressions

• Not evaluated
• Can create compound objects (generally, Scheme lists)
(define a 1)
a
(define b a)
b
(define c 'a)
c
(c)
scm> (+ 1)
1
scm> (* 3)
3
scm> (+ (* 3 3) (* 4 4))
25
scm> (define a (define b 3))
a
scm> a
b
scm> b
3
WWSD? 4.1

scm> (if (or #t (/ 1 0)) 1 (/ 1 0))
1
scm> (if (> 4 3) (+ 1 2 3 4) (+ 3 4 (* 3 2)))
10
scm> ((if (< 4 3) + -) 4 100)
-96
scm> (if 0 1 2)
1
Scheme Lists

"Bonus" questions! Draw diagrams and WWSD

```scheme
scm> (list 1 '(2 . (3)) '(4) 5)
```

```scheme
scm> (list 1 nil)

; Also, rewrite this using only cons

```scheme
scm> (cons 1 nil)
```