

Challenge

Spare Time Teaching

January 28, 2014

You may not add parameters or change the output.
Inspired by Olivier Danvy.

Problem

Implement a function to generate a constant time `min` function. The generated function should find the minimum element of a fixed length list. The generated function can only take linear space and use constant time.

You may assume that `<` uses constant time.

Example

Here is a version that uses exponential space:

```
> (demo ' (a b))
(if (< a b)
    a
    b)
> (demo ' (a b c))
(if (< a b)
    (if (< a c) a c)
    (if (< b c) b c))
> (demo ' (a b c d))
(if (< a b)
    (if (< a c)
        (if (< a d) a d)
        (if (< c d) c d))
    (if (< b c)
        (if (< b d) b d)
        (if (< c d) c d)))
```