

Introduction to L^AT_EX

Shawn Tan

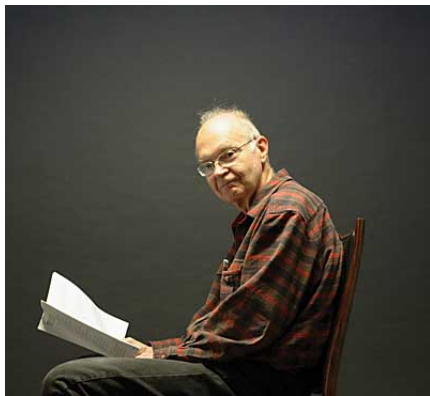
October 19, 2012

Pronunciation

{lay,lah}-teck

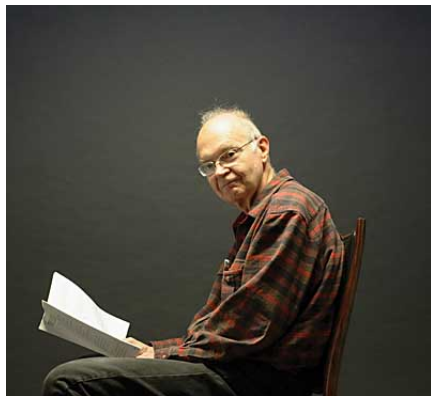
Samples

Donald Knuth



- ▶ January 10, 1938 (age 74)
- ▶ Professor Emeritus at Stanford University
- ▶ Author of “The Art of Computer Programming”
 - ▶ Volumes 1-4A...

Donald Knuth



- ▶ January 10, 1938 (age 74)
- ▶ Professor Emeritus at Stanford University
- ▶ Author of “The Art of Computer Programming”
 - ▶ Volumes 1-4A... still going.

A brief history


1974 Donald Knuth stops submitting papers to American Mathematical Society(AMS)

1977 Knuth begins research into typography

1978 Knuth delivers an AMS Gibbs Lecture entitled Mathematical Typography

1979 \TeX finished¹

Early 1980s \LaTeX , a set of macros to make life easier when working with \TeX completed by Leslie Lamport.

¹<http://www.xent.com/FoRK-archive/feb98/0307.html> 

Real programmers code with butterflies!

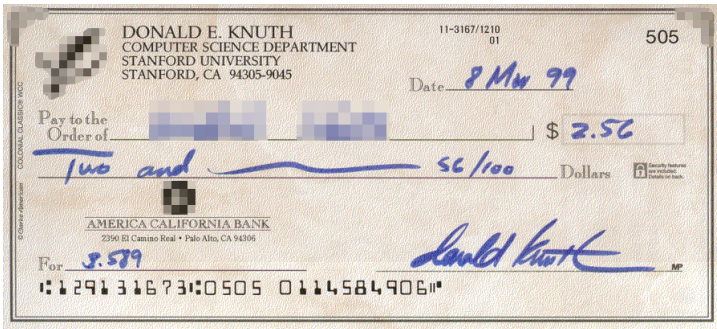
“When I wrote TeX originally in 1977 and '78, of course I didn't have literate programming but I did have structured programming. I wrote it in a big notebook in longhand, in pencil.”- Knuth ²

Knuth's bank

“Intelligence: Finding an error in a Knuth text.

Stupidity: Cashing that \$2.56 check you got.”

- a Slashdot signature³



³<http://www.stgray.com/quotes/programmingquotes.html>

L^AT_EX- urghhh..

Verbose, too much like
programming

Line noise

$$M[i,j] = \begin{cases} 0 & \text{if } i = 0 \text{ or } j = 0 \\ M[i-1,j] & \text{if } w_i > j \\ \max(M[i-1,j-w_i] + v_i, M[i-1,j]) & \text{if } w_i \leq j \end{cases}$$

Line noise

```
\[ M[i,j] = \left\{ \begin{array}{l l} 0 & \text{if } \\ j=0\\ M[i-1,j] & \text{if } w_i > j\\ \max \left( M[i-1,j-w_i] + v_i, M[i-1,j] \right) & \\ & \text{if } w_i \leq j \\ \end{array} \right. \]
```

L^AT_EX- the (few) good parts I

$$e^{i\pi} + 1 = 0$$

L^AT_EX- the (few) good parts II

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$

L^AT_EX- the (few) good parts III

$$P(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

L^AT_EX- the (few) good parts IV

$$\frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\pi}}}}$$

Typesetting big projects...

`http://github.com/shawntan/latex`

Thanks!