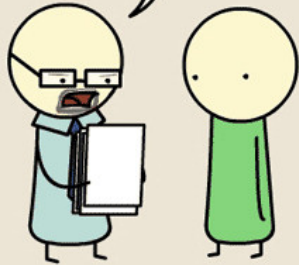


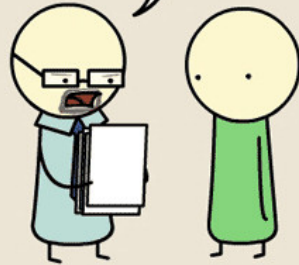
PYTHON

THIS IS PLAGIARISM.
YOU CAN'T JUST "IMPORT" ESSAY."



JAVA

I'M TWO PAGES IN AND I STILL
HAVE NO IDEA WHAT YOU'RE SAYING.



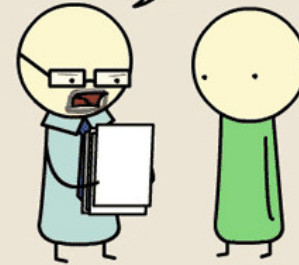
C++

I ASKED FOR ONE COPY,
NOT FOUR HUNDRED.



UNIX SHELL

I DON'T HAVE PERMISSION TO
READ THIS.



ASSEMBLY

DID YOU REALLY HAVE TO REDEFINE EVERY
WORD IN THE ENGLISH LANGUAGE?



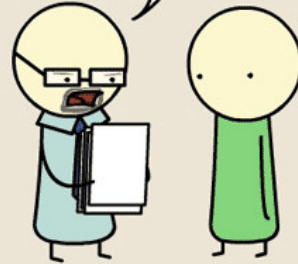
C

THIS IS GREAT, BUT YOU FORGOT TO ADD
A NULL TERMINATOR. NOW I'M JUST READING
GARBAGE.



LATEX

YOUR PAPER MAKES NO GODDAMN SENSE,
BUT IT'S THE MOST BEAUTIFUL THING
I HAVE EVER LAID EYES ON.



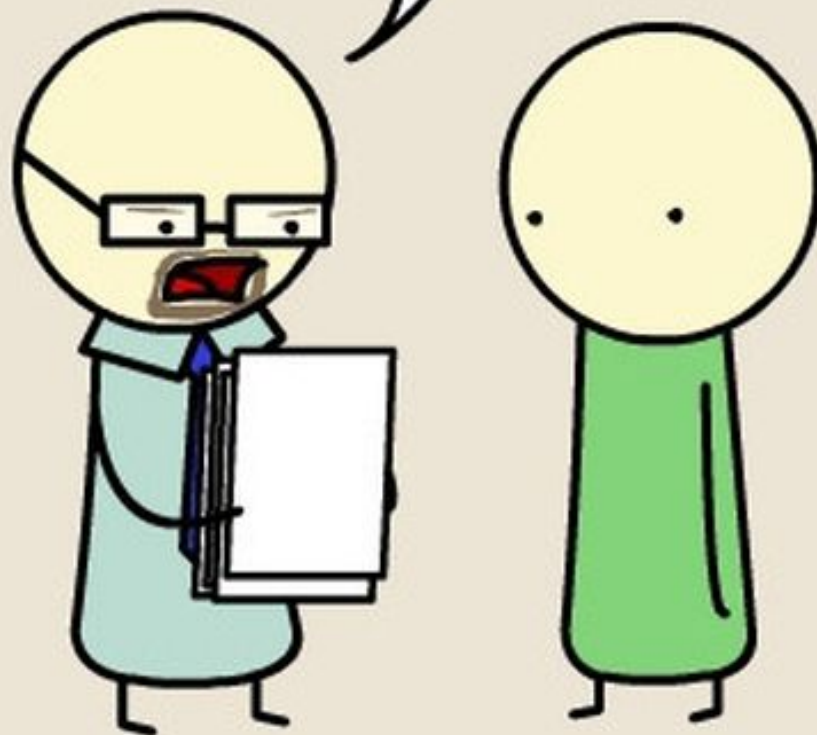
HTML

THIS IS A FLOWER POT.



LATEX

YOUR PAPER MAKES NO GODDAMN SENSE,
BUT IT'S THE MOST BEAUTIFUL THING
I HAVE EVER LAID EYES ON.



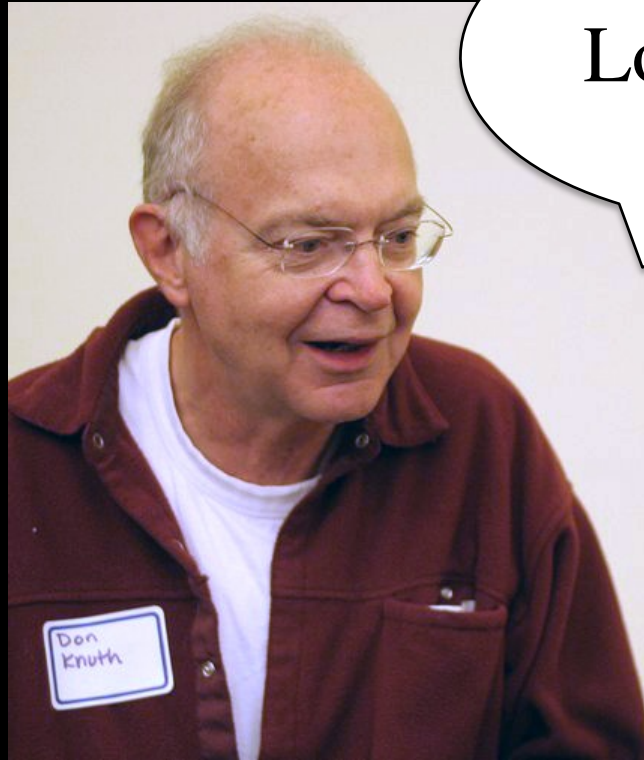
CS 152:

Programming Language Paradigms



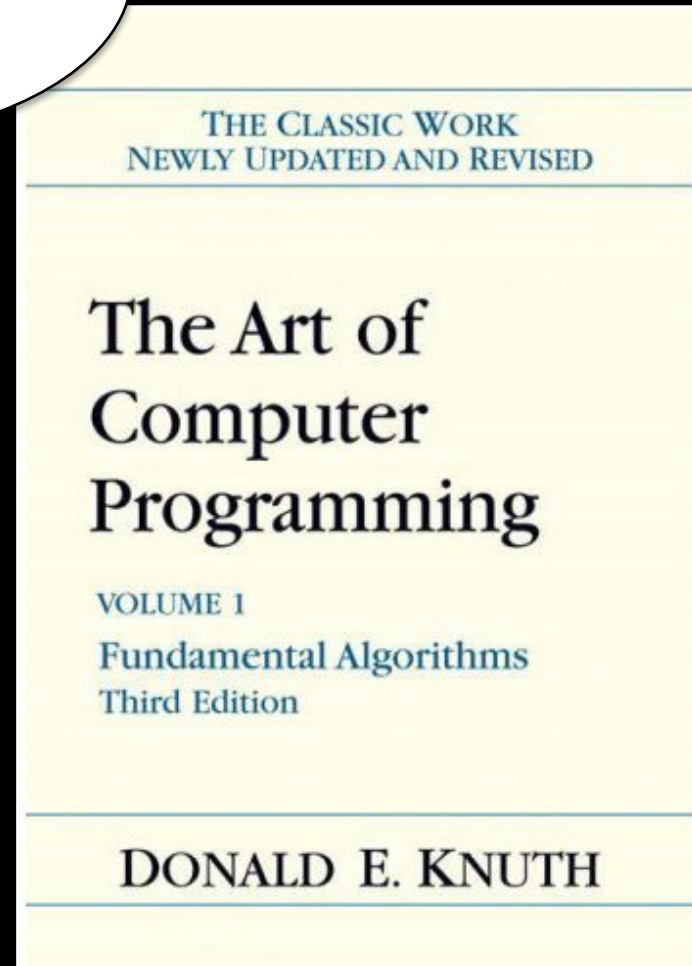
Prof. Tom Austin

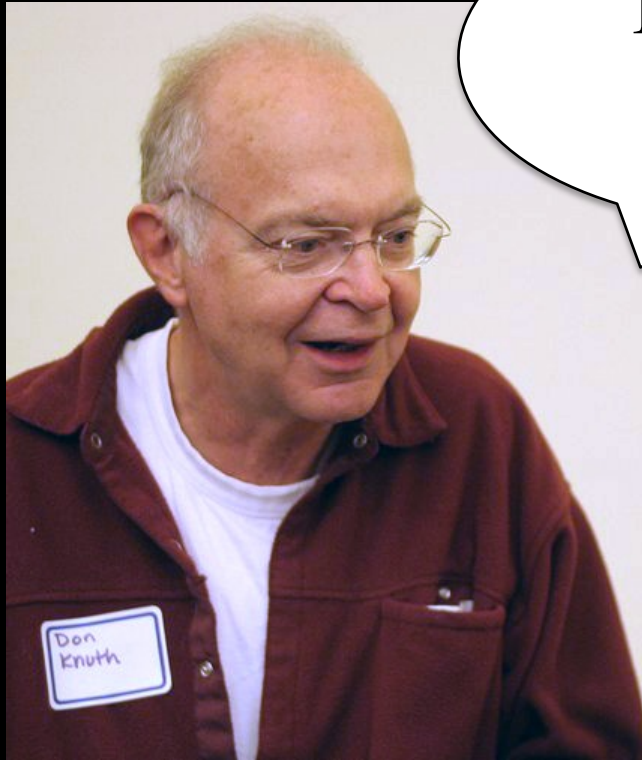
San José State University



Donald Knuth

Looks nice!





Donald Knuth

Ick! Bad
fonts.

The Art of
Computer
Programming
1977 edition

In 1977, Knuth published a 2nd version.

Knuth did not like the fonts...

...but he did not think it was important.

HAH! That was a joke.

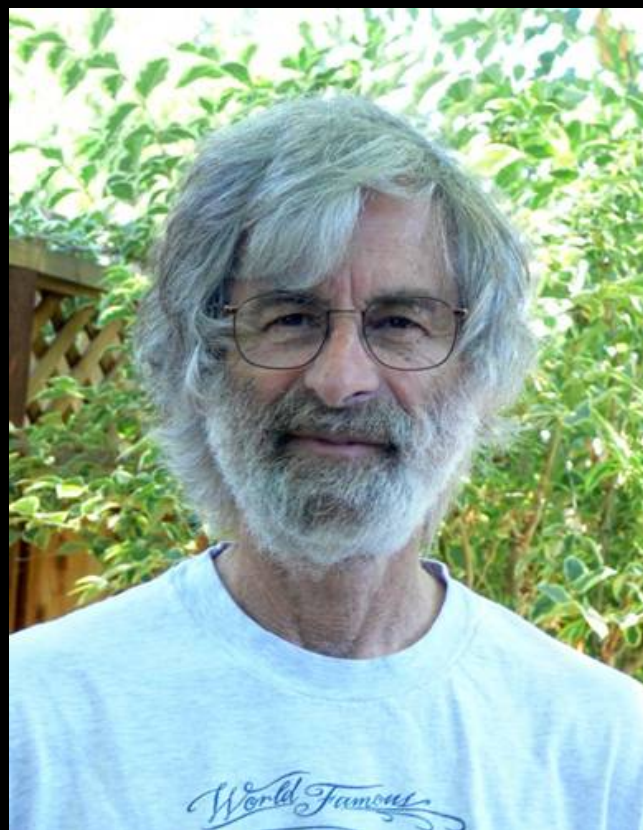
To solve his problem,
Knuth created **TeX**

The birth of TeX

- Precisely controls the interface of content.
- *literate programming*
 - logic is in natural language
 - code is interspersed

LaTeX

In 1985, Leslie
Lamport released
Lamport TeX



Leslie Lamport

Interesting aspects

- *Domain specific language* (DSL)
- Separation of concerns
 - Formatting kept separately from content (mostly)
- *Literate programming*

```
\documentclass{article}
```

```
\title{Hello World}
```

```
\begin{document}
```

```
\maketitle
```

```
\end{document}
```



**Specifies
document type**

```
\documentclass{article}
```

```
\title{Hello World}
```

```
\begin{document}
```

```
\maketitle
```

```
\end{document}
```



**Generates a title
from information.**

Sections & Labels

```
\section{Section One}
```

```
\label{sec:one}
```

```
\subsection{A subsection}
```

```
... (sometime later)
```

```
Back in Section~\ref{sec:one} ...
```

References are tedious to

- reformat
- renumber

BibTeX

- Reference details in `.bib` file
- In `.tex` file
 - `\cite` command adds references
 - Place bibliography with

```
\bibliographystyle{plainurl} \bibliography{biblio}
```



`biblio.bib`
has references

BibTeX

- Reference details in `.bib` file
- In `.tex` file
 - `\cite` command adds references

– Place bibliography with

```
\bibliographystyle{plainurl} \bibliography{biblio}
```

`plainurl`
specifies
format

BibTeX Example

```
@article{literate,  
  author    = {Donald E. Knuth},  
  title     = {Literate Programming},  
  journal   = {Comput. J.},  
  year      = {1984},  
  volume    = {27},  
  number    = {2},  
  pages     = {97--111},  
}
```

Extended Example

(in class)

Some LaTeX resources

- LaTeX project page: <https://latex-project.org>
- LaTeX tutorials: <http://www.latex-tutorial.com>
- Overleaf – Collaborative LaTeX tool:
<https://www.overleaf.com/>
- For LaTeX symbols:
 - <http://www.artofproblemsolving.com/wiki/index.php/LaTeX:Symbols> chart of symbols
 - Detexify (<http://detexify.kirelabs.org/classify.html>) lets you draw a symbol and gives you options.

LaTeX lab

Write a short essay in LaTeX. Organization:

- **Abstract**
- **Section 1: Personal History**
- **Section 2: Academic/Career Goals**
(include an itemized/enumerated list)
- **Section 3: Your Hobbies/Outside Interests**

Include 2 citations of papers, *USING BIBTEX*.

Include at least one label and one ref in your document.