

An Introduction to L^AT_EX

Make Documents Like A PROgrammer

Wesley T. Honeycutt

University of Oklahoma

October 10, 2018

If you want to follow along

https://github.com/BlueNalgene/Introduction_to_LaTeX

History

In 1978, Donald Knuth created the $\text{T}_{\text{E}}\text{X}$ programming language in a fit of frustration with how ugly photoprinting looked.

In 1983, Leslie Lamport released \LaTeX (Layman's $\text{T}_{\text{E}}\text{X}$), a set of macros which made $\text{T}_{\text{E}}\text{X}$ usable by mortals.

There are many other variants such as :

$\text{BibT}_{\text{E}}\text{X}$ $\text{ConT}_{\text{E}}\text{Xt}$ $\text{LuaT}_{\text{E}}\text{X}$ LyX $\text{pdf}\text{\LaTeX}$ $\text{X}_{\text{Y}}\text{\LaTeX}$

L^AT_EX is...

... a sophisticated document preparation sytem.

L^AT_EX has...

- ▶ Stylistic uniformity
- ▶ Bibliography support
- ▶ Sophisticated structuring abilities
- ▶ Reference tracking
- ▶ Highly extendible capabilities

L^AT_EX is not...

... a word processor.

L^AT_EX does not...

- ▶ Spell-check your documents
- ▶ Give you complete control over formatting
- ▶ Provide a graphical interface for editing

“You take care of writing, and we’ll take care of presentation.”

You might be used to WYSIWYG

What

You

See

Is

What

You

Get

L^AT_EX is WYSIWYM

What

You

See

Is

What

You

Mean

Presentation matching what you wrote, not how it was written

This text is spaced specially.

```
1 This    text is
2 spaced    specially.
```

Paragraphs are easy.
Use double line breaks.

```
1 Paragraphs are easy.
2
3 Use double line breaks.
```

Never break the unbreakable unless you want to.
You can force connections of words in a line or force spaces and linebreaks.

```
1 Never break the unbreakable
  unless you want to.
2
3 You~can~force~connections~of~
  words~in~a~line~or\ force
  \ spaces and\\linebreaks.
```


If you like to suffer

\LaTeX is coded as plaintext. If you really want to, you can do everything in a Notepad-like text editor.

The code is processed via command line:

```
pdflatex thefile.tex
```

There are add-ons for popular text editors

- ▶ *vim*: [L^AT_EX](#)suite for vim

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- ▶ *emacs*: [Latexmk](#)

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- ▶ *Notepad++*: Requires multiple tweaks

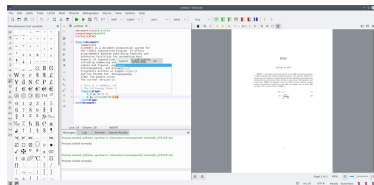
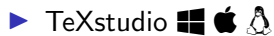
There are add-ons for popular text editors

- ▶ *vim*: [L^AT_EXsuite](#) for vim
- ▶ *emacs*: [Latexmk](#)
- ▶ *Notepad++*: Requires multiple tweaks
- ▶ *Sublime Text*: [L^AT_EXTools](#)







There are add-ons for popular text editors

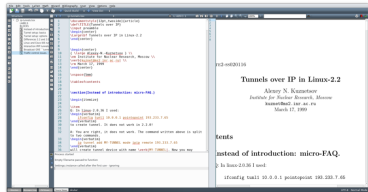
- ▶ *vim*: [L^AT_EXsuite](#) for vim
- ▶ *emacs*: [Latexmk](#)
- ▶ *Notepad++*: [Requires multiple tweaks](#)
- ▶ *Sublime Text*: [L^AT_EXTools](#)
- ▶ *Atom*: [L^AT_EXapm](#)

Lots of L^AT_EX IDE's



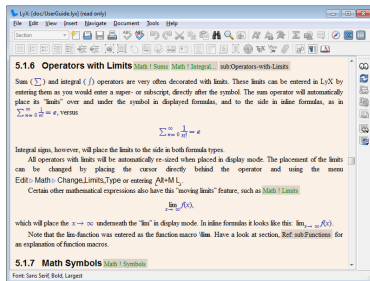
Lots of L^AT_EX IDE's

- ▶ TeXstudio   
- ▶ Texmaker   



Lots of L^AT_EX IDE's

- ▶ TeXstudio   
- ▶ Texmaker   
- ▶ LyX   



Lots of L^AT_EX IDE's

- ▶ TeXstudio   
- ▶ Texmaker   
- ▶ LyX   
- ▶ MacTeX 

Welcome to MacT_EX

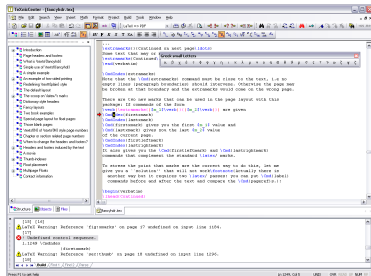
Welcome to MacT_EX
Welcome to MacT_EX
Welcome to MacT_EX

歡迎
MacT_EX
Welcome to MacT_EX
MacT_EX
Welcome to MacT_EX
MacT_EX

Welcome to MacT_EX
Welcome to MacT_EX

Lots of \LaTeX IDE's

- ▶ TeXstudio   
- ▶ Texmaker   
- ▶ LyX   
- ▶ MacTeX 
- ▶ MiKTeX 



Lots of L^AT_EX IDE's

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- ▶ MacTeX 
- ▶ MiKTeX 
- ▶ TeX Live 

Online collaborative options

- ▶ Overleaf/ShareLaTeX



Online collaborative options

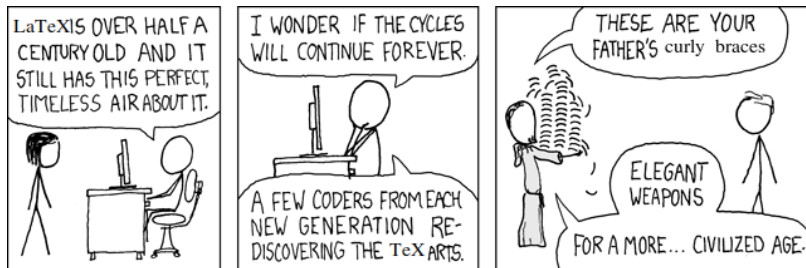
- ▶ Overleaf/ShareLaTeX
- ▶ Authorea

AU

Online collaborative options

- ▶ Overleaf/ShareLaTeX
- ▶ Authorea
- ▶ There are others which I have no experience with.

Learn to love braces



Commands and Environments

Uncentered

```
1  Uncentered
```

Centered Environment

```
1  \begin{center}  
2    Centered Environment  
3  \end{center}
```

Command Centered

```
1  \centering  
2  Command Centered
```

The Logical Structure of a \LaTeX Document

Preamble

- ▶ Declare the document type you will be making:
`\documentclass[options]{class}`

The Logical Structure of a \LaTeX Document

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`\usepackage[options]{package}`

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- ▶ Define any custom functions or environments

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Preamble

- ▶ Declare the document type you will be making:
`\documentclass[options]{class}`
- ▶ Declare what packages you will need:
`\usepackage[options]{package}`
- ▶ Define any custom functions or environments
- ▶ Declare important variables

The Logical Structure of a \LaTeX Document cont'd

Body

- Initialize the document in an environment

```
\begin{document}
```

...

```
\end{document}
```

The Logical Structure of a \LaTeX Document cont'd

Body

- ▶ Initialize the document in an environment
`\begin{document}`
...
`\end{document}`
- ▶ Within this environment you will:

The Logical Structure of a \LaTeX Document cont'd

Body

- ▶ Initialize the document in an environment
`\begin{document}`
...
`\end{document}`
- ▶ Within this environment you will:
 - ▶ Create the title page or section:
`\maketitle`

The Logical Structure of a \LaTeX Document cont'd

Body

- ▶ Initialize the document in an environment
 - `\begin{document}`
 - ...
 - `\end{document}`
- ▶ Within this environment you will:
 - ▶ Create the title page or section:
 - `\maketitle`
 - ▶ Write your document

The simplest document

The simplest

Wes Honeycutt

October 10, 2018

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam acra libero, semummy eget, consectetur id, vulpitate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra nunc rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, nulla ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

```
\documentclass{article}
\usepackage{lipsum}
\title{The simplest}
\author{Wes Honeycutt}
\begin{document}
  \maketitle
  \lipsum[1]
\end{document}
```

Making the `\maketitle`

The title can include several elements, which are declared by the user.

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- ▶ `\title{The Title}`

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- ▶ `\title{The Title}`
- ▶ `\author{The Author's Name}`

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The title can include several elements, which are declared by the user.

- ▶ `\title{The Title}`
- ▶ `\author{The Author's Name}`
 - ▶ This can include `\thanks{Some Institution}`

Making the `\maketitle`

The title can include several elements, which are declared by the user.

- ▶ `\title{The Title}`
- ▶ `\author{The Author's Name}`
 - ▶ This can include `\thanks{Some Institution}`
- ▶ `\subtitle{A Clever Subtitle}`

Making the \maketitle

The title can include several elements, which are declared by the user.

- ▶ `\title{The Title}`
- ▶ `\author{The Author's Name}`
 - ▶ This can include `\thanks{Some Institution}`
- ▶ `\subtitle{A Clever Subtitle}`
- ▶ `\subject{A Subject Heading}`

Our Sample Title Page

```
\title{The Pitfalls of LaTeX}

\author{
  Wesley T. Honeycutt
  \thanks{University of Oklahoma Department of Biology}
  \and Leon the Cat}

\subtitle{Stackexchange was down and other horror stories}

\subject{A Joke Paper}
```

Wesley T. Homervutt * Leon the Cat

*University of Oklahoma Department of Biology

\documentclass{scrbook}

A Joke Paper

The Pitfalls of LaTeX

Stack Exchange was down and other horror stories

Wesley T. Honeycutt * Leon the Cat

October 10, 2018

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, pharetra ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

*University of Oklahoma Department of Biology

\documentclass{report}

Stack Exchange was down and other horror stories A Joke Paper

The Pitfalls of LaTeX

Wesley T. Honeycutt¹ Learn the Cat

October 10, 2018

¹University of Oklahoma Department of Biology

Stack Exchange was down and other horror stories A Jobe Paper

The Pitfalls of LaTeX

Wesley T. Haseyett ¹ Leon the Cat, Lorem ipsum dolor

et amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat
ac, adipiscing vitae, fids. Curabitur dictum gravida mauris. Nam arcu libero,
nunciaty eget, conuectitur id, vulpinate a, magna. Donec vitellula augue eu
nupte. Phasellusque habitant morbi tristique senectus et netus et malesuada
fames ac turpis egestas. Mauris ut leo. Cras viverra metus rheneus eu. Nulla
et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor
gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc.
Praesent eget sem vel leo ultrices bibendum. Aenean lacinia. Morbi dolor
nulla, malesuada eu, pulcris at, mollis ac, nulla. Curabitur auctor semper
nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend,
sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Publisher Distributed Classes

The previous example shows how different classes rearrange the same elements.

Publisher Distributed Classes

The previous example shows how different classes rearrange the same elements.

Academic Publishers

Elsevier - *elsarticle*

Springer - *lncs*

IEEE - *IEEEtran*

AMS - *amscls*

Some More Academic Publishers With Classes

- ▶ aaai www.aaai.org
- ▶ AAAS/science www.sciencemag.org
- ▶ American Chemical Society Publications
- ▶ Addison-Wesley
- ▶ algebra universalis
- ▶ American Institute of Physics www.aip.org
- ▶ American Meteorological Society www.ametsoc.org
- ▶ American Physical Society authors.aps.org
- ▶ Beech Stave Press
- ▶ Birkhuser
- ▶ Cambridge University Press
- ▶ CRC
- ▶ Documenta Mathematica www.math.uiuc.edu
- ▶ Docscape
- ▶ Engine House Books

Some More Academic Publishers With Classes

- ▶ Fondo de Cultura Econmica
- ▶ Informs joc.pubs.informs.org
- ▶ Institut Mittag-Leffler (Royal Swedish Academy of Sciences)
- ▶ www.arkivformatematik.org
- ▶ IOP (institute of physics) authors.iop.org
- ▶ John Benjamins Publishing Company
- ▶ London Mathematical Society books www.lms.ac.uk
- ▶ Louisiana State University Press
- ▶ Mathematical Association of America www.maa.org
- ▶ National Research Council of Canada
- ▶ Oxford University Press www.oup.co.uk
- ▶ Princeton University Press press.princeton.edu
- ▶ Publications de l'Institut Mathmatique (Beograd)
www.emis.de

Some More Academic Publishers With Classes

- ▶ SAS Institute
- ▶ SIAM books www.siam.org
- ▶ Springer math www.springer.com
- ▶ Springer physics www.springer.com
- ▶ Thomson Delmar Learning
- ▶ UIT Cambridge
- ▶ Unipress (Institute of High Pressure Physics, Polish Academy of Sciences)
- ▶ www.unipress.waw.pl
- ▶ University of California Press
- ▶ Wiley www.wiley.com
- ▶ William Andrew Publishing
- ▶ World Scientific
- ▶ WordTech

Section Hierarchy

```
\section{The Topmost}  
  \subsection{A Little Deeper}  
    \subsubsection{Deeper Still}  
      ...
```

Text Formats

Be **Bold**!

Italicize!

Underline to accentuate!

Write with *emphasis*!

```
1 Be \textbf{Bold}!\\
2 \textit{Italicize}!\\
3 \underline{Underline} to
   accentuate!\\
4 Write with \emph{emphasis}!\\
```

Font Size

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

I'm shrinking

```
1 {\Huge I'm shrinking}\\
2 {\huge I'm shrinking}\\
3 {\LARGE I'm shrinking}\\
4 {\Large I'm shrinking}\\
5 {\large I'm shrinking}\\
6 {\normalsize I'm shrinking}\\
7 {\small I'm shrinking}\\
8 {\footnotesize I'm shrinking
   }\\
9 {\scriptsize I'm shrinking}\\
10 {\tiny I'm shrinking}\\
```

Lists

- ▶ Boomer
- ▶ Sooner
- ▶ Oklahoma

```
1 \begin{itemize}
2   \item Boomer
3   \item Sooner
4   \item Oklahoma
5 \end{itemize}
```

1. Boomer
2. Sooner
3. Oklahoma

```
1 \begin{enumerate}
2   \item Boomer
3   \item Sooner
4   \item Oklahoma
5 \end{enumerate}
```

Nested Lists

- ▶ Boomer
 - ▶ Sooner
- ▶ Oklahoma

1. Boomer
 - 1.1 Sooner
2. Oklahoma

```
1 \begin{itemize}
2   \item Boomer
3   \begin{itemize}
4     \item Sooner
5   \end{itemize}
6   \item Oklahoma
7 \end{itemize}
```

```
1 \begin{enumerate}
2   \item Boomer
3   \begin{enumerate}
4     \item Sooner
5   \end{enumerate}
6   \item Oklahoma
7 \end{enumerate}
```

Graphics

Tables

Math

Graphics Generation with TikZ

High quality vector images can be produced from within LaTeX using a package called TikZ.

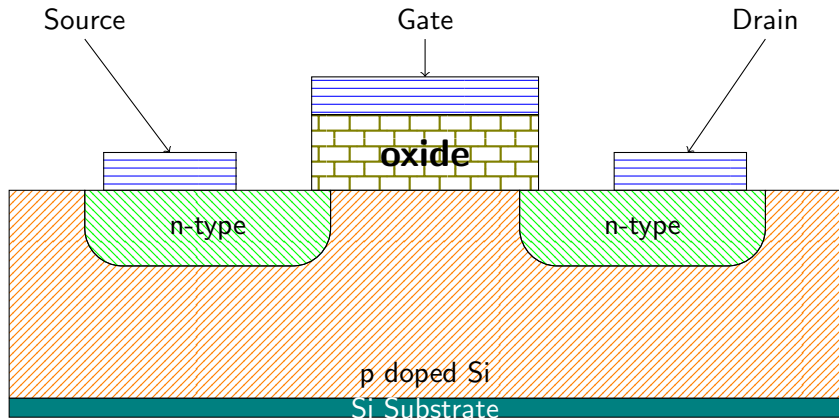
Additionally, Inkscape can export TikZ directly.

```

\begin{tikzpicture}
\draw \pdiff (0,.25) -- (0,3) -- (1,3) -- (1,2.5) to [out
    =270,in=180] (1.5,2) -- (3.75,2) to [out=0,in=270]
    (4.25,2.5) -- (4.25,3) -- (6.75,3) -- (6.75,2.5) to [out
    =270,in=180] (7.25,2) -- (9.5,2) to [out=0,in=270]
    (10,2.5) -- (10,3) -- (11,3) -- (11,.25) -- (0,.25) node
    [midway,above] {p doped Si};
\draw \metalthree (0,0) rectangle (11,.25) node [midway,
    color=white]
{Si Substrate};
\draw \oxide (4,3) rectangle (7,4) node [pos=.5,font=\bf\
    Large] {oxide};
\draw \metalone (4,4) rectangle (7,4.5);
\draw \ndiff (4.25,3) -- (1,3) -- (1,2.5) to [out=270,in
    =180] (1.5,2) -- (3.75,2) to [out=0,in=270] (4.25,2.5)
    -- (4.25,3) node at (2.625,2.5) [align=center] {n-type};
\draw \ndiff (10,3) -- (6.75,3) -- (6.75,2.5) to [out=270,in
    =180] (7.25,2) -- (9.5,2) to [out=0,in=270] (10,2.5) --
    (10,3) node at (8.375,2.5) [align=center] {n-type};
\draw \metalone (1.25,3) rectangle (3,3.5);
\draw \metalone (8,3) rectangle (9.75,3.5);
\draw [->] (1,5) node [above] {Source} -- (2.125,3.5);
\draw [->] (10,5) node [above] {Drain} -- (8.975,3.5);
\draw [->] (5.5,5) node [above] {Gate} -- (5.5,4.5);
\node at (5.5,-.5) [align=center] {$V_{GS} < V_{threshold}$
    };
\end{tikzpicture}

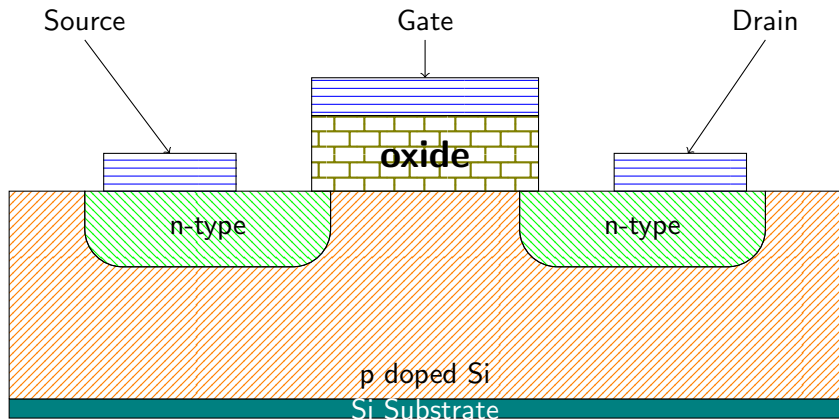
```

MOSFET



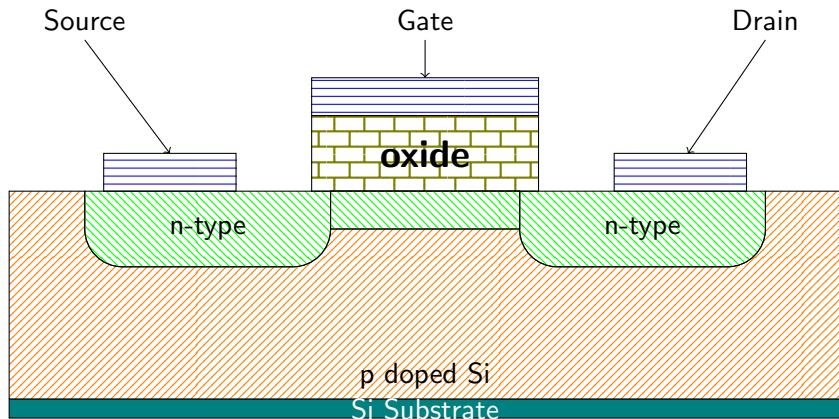
$$V_{GS} < V_{threshold}$$

MOSFET



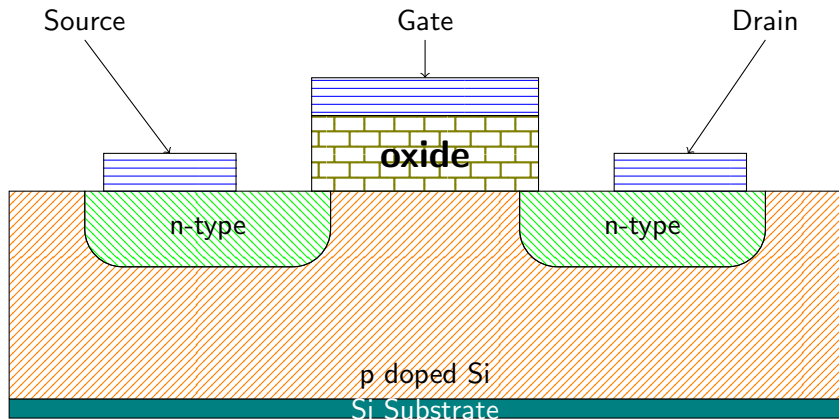
$$V_{GS} \geq V_{threshold}$$
$$V_{DS} < V_{GS} - V_{threshold}$$

MOSFET



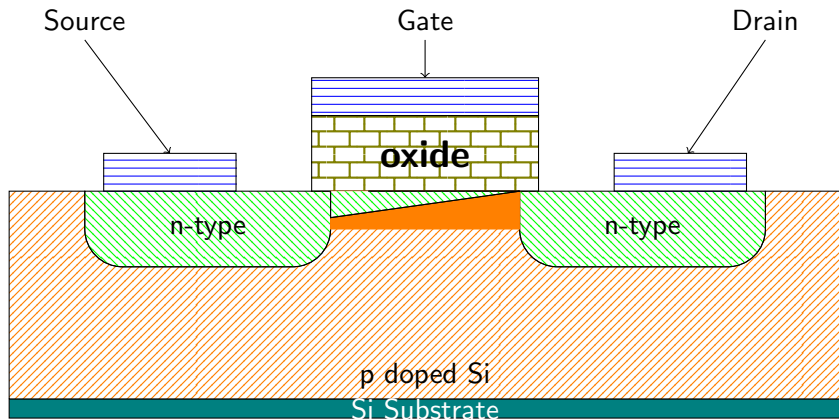
$$V_{GS} \geq V_{threshold}$$
$$V_{DS} < V_{GS} - V_{threshold}$$

MOSFET



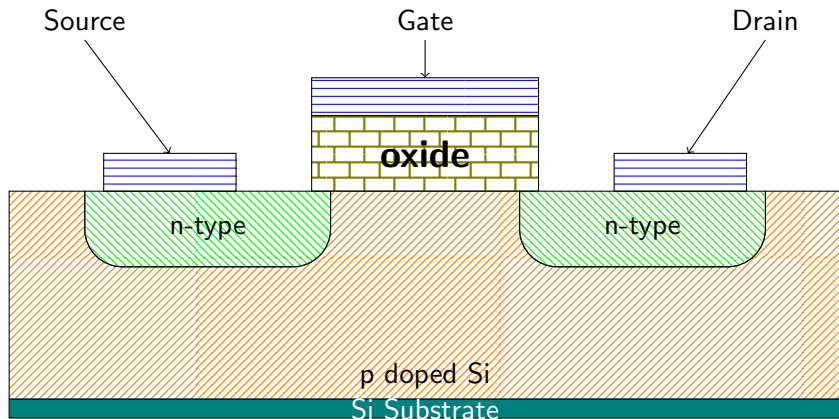
$$V_{GS} \geq V_{threshold}$$
$$V_{DS} = V_{GS} - V_{threshold}$$

MOSFET



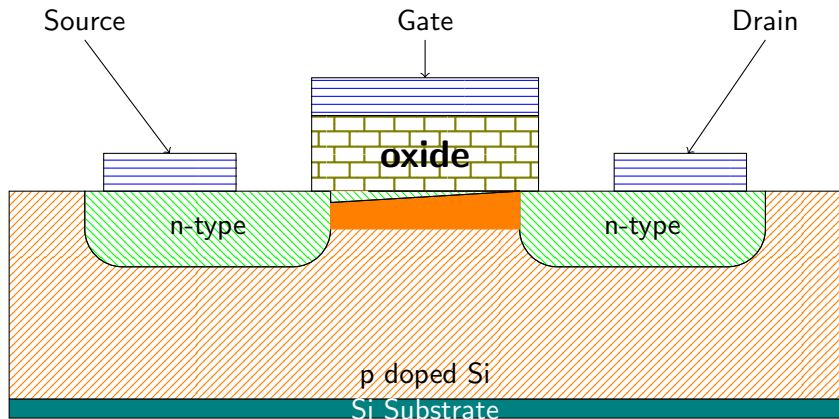
$$V_{GS} \geq V_{threshold}$$
$$V_{DS} = V_{GS} - V_{threshold}$$

MOSFET



$$V_{GS} \geq V_{threshold}$$
$$V_{DS} > V_{GS} - V_{threshold}$$

MOSFET



$$V_{GS} \geq V_{threshold}$$
$$V_{DS} > V_{GS} - V_{threshold}$$

Super Powerful for Theses

Make a Custom Class

October 11, 2018

2.7 LOCATION AND FACILITIES

Redcedar Products is seeking an industrial facility near Stillwater, Oklahoma to start operations. It is estimated that currently, 25% of the state is covered with eastern redcedar (Figure 1). As satellite imaging shows (Figure 2), Payne county in particular has a large number of these trees in the vicinity. Considering access to plenty of foliage, Stillwater offers the benefits of proximity to a large research institution which can benefit company growth. The facility will offer storage for purchased foliage and a factory containing extraction equipment. A small office will be utilized for administration activities and a small conference room.

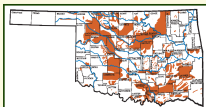


FIGURE 1: A CARTOON OF THE DISTRIBUTION OF REDCEDAR OVER OKLAHOMA.

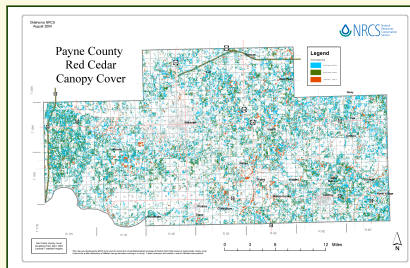


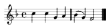
FIGURE 2: A DETAILED MAP OF THE REDCEDAR GROWTH IN PAYNE COUNTY PRODUCED FROM SATELLITE IMAGING COMPILED BY THE NRCS.

Make a Custom Class



<https://github.com/ludus-leonis/nipajin>

Make a Custom Class



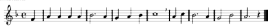
Doamne milu - se - ste.

Credincioși: Doamne miluiește.

Preotul: Pe Preasfânta, curată, preabinecuvântată, mărita sârpina noastră, de Dumnezeu Născămarea și pururea feciara Maria, cu toți sfinții ai a pomenim.

People: Lord, have mercy

Priest: Let us remember our most holy, pure, blessed, and glorious Lady, the Mother of God and ever virgin Mary, with all the saints.



Prea Sfinții Nașcă-torii de Dumnezeu, milu-ia-ște-ne pe noi

Credincioșii: Preasfântă Născătoare de Dumnezeu, miluiește-ne pe noi.

People: Most holy Mother of God, have mercy upon us.

Precutul: Pe noi înșine și unii pe alții și toată viața noastră, lui Hristos, Domnului să o dăm.

Priest: Let us commit ourselves and one another
and all our life to Christ our God.



T-6 Doam - no

Credibility: Tie, Doanline

Preotul: Cîl Tîe se cîvine toard slava, cinstea și închinăciunea, Tardului și Fiului și Sfînzului Duî, orcum și pîrturea și în veci vecilor.

People: To You, O Lord.

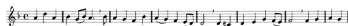
Priest: For to You belong all glory, honor, and worship to the Father and the Son and the Holy Spirit, now and forever and to the ages of ages.



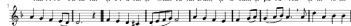
Amin

Credincioși: Amin.

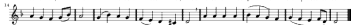
People: Amen.

ANTIFONUL ÎNTÂI²THE FIRST ANTIPHON²

Mă-ri-re To-tă-lui și Fi-u-lui și SŃn-ta-lui Duh, și a-cum și ra-ru-rea și în ve-d



ve-ci-le, A - min. Bi-ne-cu-vin - tea-ă, su-fle-te al meu pe Dom-nul. Si toa-te co-le



đin-là-an-truật meo. na - me-le cẻ Sẻnẻt al lủi. Bi-ne-cu-yẻn - lủi— cẻtẻi Dẻng— nẻ

Credincioșii: Mărire Tatălui și Fiului și Sfântului Duh, și acum și pururea și în veacii veacilor. Amin. Binecuvîntează, suflete al meu pe Domnul. Și toate cele dinlăuntrul mea, numele cel Sfânt al lui. Binecuvîntat: ești Doamne.

People: Glory to the Father, and to the Son,
and to the Holy Spirit, now and ever, and to the
ages of ages. Amen. Bless the Lord, O my soul.
And all that is within me, bless His holy Name.
Blessed are You, O Lord.

²Ordinul «antifon» vine din limba greacă și înseamnă «treaptă». Antifonul întâi cuprinde începutul Psalmului 102 și este o cântare de slăvire a lui Dumnezeu.

²The word «antiphon» comes from Greek, meaning «step». The First Antiphon encompasses the beginning of Rules 102, and it is a song of praise to God.

Make a Custom Class

2. Creation de l'homme. Geneve.

15 En loquent pour luminaires au firmament du ciel, à fin de donner lumière sur la terre. Et fut fait ainsi.
16 Dieu donc fit deux grans luminaires plus grand luminaire pour gouverner le jour, & le monde pour gouverner la nuit, & les étoiles.
17 Et Dieu les mit en l'orbite du ciel, pour luire sur la terre.
18 Et pour gouverner le jour, & la nuit, & pour separer la lumiere des tenebres. Et Dieu vit que c'était ehoit bon.
19 Lors fut fait le soir & le matin du quatrième jour.
20 ¶ En apres Dieu dit, Que les eaux produisent abondamment reptile ayant une vie: & volaille vole sur la terre en tous l'orbite du ciel.
21 Dieu donc crea de grans bœtes, & toute creature vivante que les eaux produisent selon leur espèce: & toute volaille ayant ses ailes selon son espèce: & Dieu vit que c'était ehoit bon.
22 Adonc fit les bœs, diuers, fructifier, & multiplier, & remplir les eaux des mers: que la volaille se multiplie en la terre.
23 Lors fut fait le soir & le matin du cinquiesme jour.
24 ¶ Ouvre Dieu dit, Que la terre produise creature vivante selon son espèce, bœuf, & reptile, & animaux de la terre chacun selon leur espèce. Et fut ainsi fait.
25 Dieu donc fit l'homme de la terre selon son espèce, & le bœuf selon son espèce, & tout le reptile de la terre selon son espèce. Et Dieu vit que c'était ehoit bon.
26 Outreplus Dieu dit, Faisons l'homme à l'image de notre image, & selon notre semblance, & qu'il ait domination sur les poissons de la mer, & sur les oiseaux du ciel, & sur les bœs, & sur toute la terre, & sur tout reptile rampant sur la terre.
27 Dieu donc crea l'homme à l'image de son image, & l'homme fut fait en l'image de Dieu.
28 Et Dieu les benit, leur dit, Fructifiez, & multipliez, & remplissez la terre, & laillez en fructifier: & ayez l'empire sur les poissons de la mer, & sur les oiseaux du ciel, & sur tous animaux qui se meuvent sur la terre.

29 L'Éternel Dieu dit, Voici, je vous ay donné toute herbe qui produit le semence qui est sur toute la terre, & tout arbre qui a en soy fruit d'arbre produisant le semence: à la fin qu'ils vous soient pour viande.
30 Mesmes aussi à tous animaux de la terre, & à tous oiseaux du ciel, & à toute chose mouvante sur la terre, qui a en soy une vie, toute herbe verte sera pour viande. Et fut ainsi fait.
31 ¶ Et Dieu vit tout ce qu'il avoit fait, & voilà il ehoit moult bon. Lors fut fait le soir & le matin du sixiesme jour.

CHAP. 21.

¶ C'est le septiesme jour, & le jour de la création d'Adam, & d'Ève, & de la chute d'Adam, & de la création d'Noë, & de la construction de l'Arche.

1 En ce sixieme jour, la terre fust faite parfaite, & tout l'exercice d'iceux.
2 ¶ Car Dieu avoit accépté au septiesme jour son œuvre qu'il avoit faite, & se reposa au septiesme jour de toute son œuvre qu'il avoit faite.
3 Et Dieu benit le septiesme jour, & le l'ordna: pour ce qu'il avoit cessé de toute son œuvre, qu'il avoit créée pour ehoit faite.
4 Telles sont les generations du ciel & de la terre, quand ils furent créés tout jour que le Seigneur Dieu fit le ciel & la terre.
5 Et tout le vers du champ, & de ce qui est fait en la terre, & tout herbage du champ, & de ce qui est fait en la terre, le Seigneur Dieu n'avoit point fait: pour ce qu'il avoit donné à l'homme pour labourer la terre.
6 Mais vne vapeur mœvoit de la terre, qui arrosait tout le dessus de la terre.
7 Or le Seigneur Dieu avoit formé l'homme de la poudre de la terre, & l'homme fut fait en l'image de Dieu.
8 Or le Seigneur Dieu avoit formé l'homme de la poudre de la terre, & l'homme fut fait en l'image de Dieu.

Auili

https://github.com/raphink/geneve_1564

Make a Custom Class

Nexus.sty
A style file for \LaTeX

Alexis Flesch

version 1.1

$(a+b)^n = \sum_{k=0}^n \binom{n}{k} a^k b^{n-k}$

$\zeta_k = |a_1|^{1/n} e^{i(\arg(a_1) + 2k\pi)/n}$

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

$\neg(p \vee q) \equiv (\neg p) \wedge (\neg q)$

$\binom{n}{k} = \frac{n!}{k!(n-k)!}$

$y = \cos(x)$
 $y = \sin(x)$

$y = x^2$
 $y = \sin(x)$

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1 2 3 4 5 A B

<https://github.com/alexisflesch/nexus>

Unique Words and Hyphenation

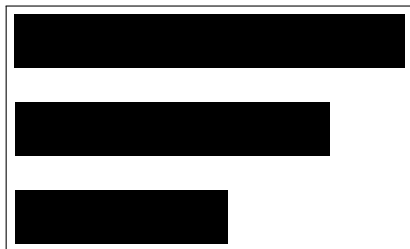
L^AT_EX automatically hyphenates words in the dictionary. What if you have something that isn't common?

```
\hyphenation{Red-ce-dar May-ap-ple Ok-la-ho-ma che-mo-ther  
-apy through}
```

Do calculations

L^AT_EX wasn't made for math, but you do have access to registers . . .

`\usepackage{calc}`



```
1 \newlength{\mylength}
2 \setlength{\mylength}{\textwidth}%
3 \noindent\rule{\mylength}{20pt}
4
5 \bigskip
6 \setlength{\mylength}{\textwidth-1cm}%
7 \noindent\rule{\mylength}{20pt}
8
9 \bigskip
10 \setlength{\mylength}{\textwidth-80pt+5mm-1bp}%
11 \noindent\rule{\mylength}{20pt}
```

Do calculations

... and floating points.

`\usepackage{fp}`

The following arithmetic is easy:

► $5 + 6 = 11$

► $2 + 3/5 \times \pi = 3.88496$

```
1 The following arithmetic is
   easy:
2 \begin{itemize}
3 \item \FPeval{\result}{clip
      (5+6)}%
4 $5+6=\result$
5 \item \FPeval{\result}{round
      (2+3/5*pi,5)}%
6 $2+3/5\times\pi=\result$
7 \end{itemize}
```

I use math for my consulting invoices.

Wesley Honeycutt

111 Chesapeake St.
Norman, OK 73019

(405) 555-5555
honeycutt@ou.edu

Invoice To:

Jimmy Gallogly
University of Oklahoma
660 Paddington Oval
Norman, OK 73019

Invoice Date:

October 10, 2018

Invoice Terms

Due on Receipt

Description of Services	Quantity	Unit Price	Amount
Purchased Materials			
Beard Growth Oil		\$337.39	\$337.39
Consulting Services			
July 9 th , 2018	1.00 hours	\$12.00	\$12.00
July 10 th , 2018	8.00 hours	\$34.00	\$272.00
July 11 th , 2018	3.00 hours	\$12.00	\$36.00
July 14 th , 2018	3.00 hours	\$34.00	\$102.00
July 15 th , 2018	3.00 hours	\$12.00	\$36.00
July 20 th , 2018	1.00 hours	\$34.00	\$34.00
July 21 st , 2018	2.00 hours	\$12.00	\$24.00
July 31 st , 2018	4.00 hours	\$34.00	\$136.00
Balance Due			\$989.39

The Comprehensive T_EX
Archive Network is a package
repository

This also includes manuals
and examples

The screenshot shows the CTAN (Comprehensive T_EX Archive Network) homepage. At the top, there's a navigation bar with links for 'Cover', 'Upload', 'Browse', 'Search', 'Login', 'Join', 'Settings', and 'Help'. Below this, a banner reads 'The Comprehensive T_EX Archive Network'. A brief description states: 'The Comprehensive T_EX Archive Network (CTAN) is the central place for all kinds of material around T_EX. CTAN has currently 5581 packages, 2542 contributors have contributed to it. Most of the packages are free and can be downloaded and used immediately.'

There are three main sections on the page:

- Announcements on CTAN-announce**: A list of recent updates, including '2018-10-06 CTAN Update: hanporcsthesis', '2018-10-06 CTAN Update: nicematrix', '2018-10-06 CTAN update: casfont', and '2018-10-06 CTAN update: exercisebank'. A 'more #' link is provided.
- Did you know?**: A section highlighting the 'Bookhand Font' in the T_EX Catalogue, noting it has 16 packages for fonts of scripts used for manuscript books. A 'more #' link is also present.
- Activity on CTAN**: A section stating that an active T_EX community takes care that CTAN is updated and extended regularly, receiving usually more than 100 uploads per month. Below this text is a line graph showing activity over time.

At the bottom right, there's a section titled 'T_EX' featuring a large 'T_EX' logo and a description: 'T_EX is a typesetting program designed for high-quality composition of material that contains a lot of mathematical and technical expressions. It has been adapted by many authors and publishers who generate technical books and papers. It was created by Professor Donald E. Knuth of Stanford University, originally for preparation of books on The Art of Computer Programming.'

When in doubt: Google

$\text{T}_{\text{E}}\text{X}$ is older than the Happy Meal.

When in doubt: Google

$\text{T}_{\text{E}}\text{X}$ is older than the Happy Meal.

Someone has likely experienced your pain.

When in doubt: Google

\TeX is older than the Happy Meal.

Someone has likely experienced your pain.


<https://tex.stackexchange.com/>

At your local library

OU libraries has a \LaTeX expert:

Amanda Schilling

: [Stem Services](#)

: (405) 325-6126

: amanda.schilling@ou.edu

Office Hours: W/Th 8-9am in DAVIS
M 6-8pm in the Learning Lab




At your local library

OU libraries has a \LaTeX expert:

Mark Laufersweiler

: [Research Data Specialist](#)

: (405) 325-3710

: laufers@ou.edu




Or contact me

I'm just a \LaTeX junkie:

Wesley T. Honeycutt

: [Personal Site](#)

: *I have an office phone?*

: honeycutt@ou.edu

: <https://github.com/BlueNalgene>



- ▶ First.
- ▶ Second.
- ▶ Third.

```
1 \begin{itemize}
2   \item First.
3   \item Second.
4   \item Third.
5 \end{itemize}
```

$$x^2 + y^2 = z^2. \quad (1)$$

```
1 \begin{equation}
2   x^2 + y^2 = z^2.
3 \end{equation}
```