Latex Installation and Hello World

Notebook:	B10-LaTex		
Created:	8/29/2019 7:46 PM	**Updated:**	2/22/2021 6:14 PM
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URL:	https://www.overleaf.com/learn/latex/Choosing_a_LaTeX_Compiler		

only latex equation generator for everynote
https://viktorstrate.github.io/latex-equation-toolbox/

1, Install a LaTex distribution

laTeX documents are plain documents with a .tex extension
The set of programs that make possible to compile a latex document and generate the final output (such as pdf) is a latex distribution

Use MikTex for Windows
https://miktex.org/about
MiTex provides the MiKTex Console to manage the packages
https://miktex.org/howto/miktex-console

after installed, restart VScode, command line **latex -version** to see if it's successfully installed

2, Use VScode as your editor

install extension latex workshop, it can view pdf in VScode and has intellisense

creat a file with ending .tex

for a hello world project, create a file example.tex and

```
\documentclass[a4paper]{article}

\begin{document}

Hello World ! % This is your content

\end{document}
```

after finish your latex document, **pdflatex file_name.tex** to use pdf compiler pdflatex to generate pdf file

open .tex file in the editor, click  on the top right to view pdf file in VScode

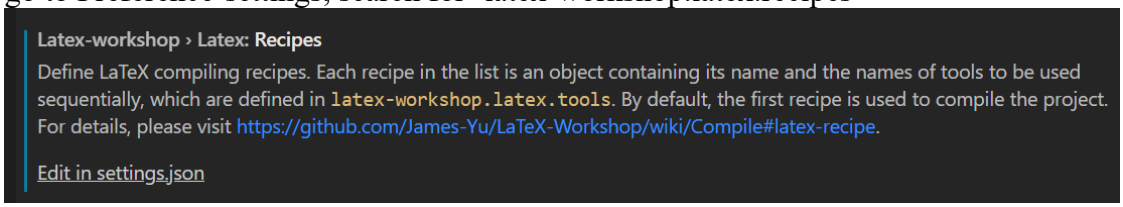
you can preview the equation by place your mouse at \begin{}

$$\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \\ \dot{x}_3 \end{bmatrix} = \begin{bmatrix} -6 & 1 & 0 \\ -11 & 0 & 1 \\ -6 & 0 & 0 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} + \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} u(t)$$

```
\begin{equation*}
```

3, set up extension latex workshop

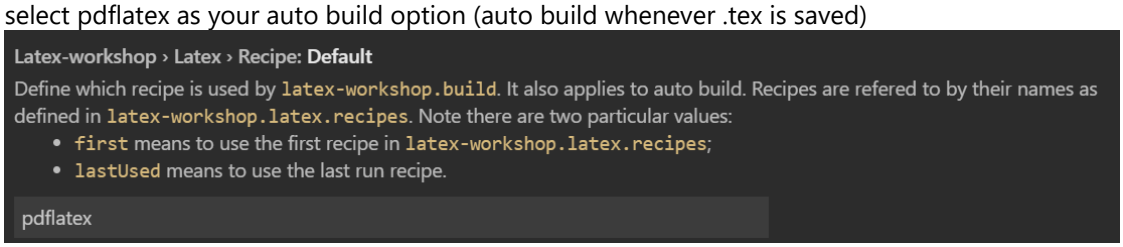
go to Preference-settings, search for `latex-workshop.latex.recipes`



choose to edit in settings.json and add the highlighted part (pdflatex twice to make sure reference is working)

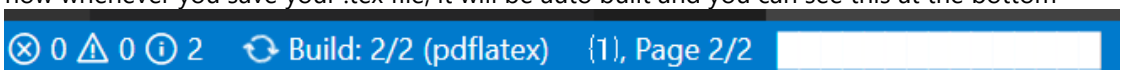
```
        {
            "name": "pdflatex",
            "tools": [
              "pdflatex",
              "pdflatex"
            ]
        },
```

select pdflatex as your auto build option (auto build whenever .tex is saved)



restart VScode

now whenever you save your .tex file, it will be auto built and you can see this at the bottom



if you have two monitor, choose "view in web browser". drag pdf preview to one monitor and code at the other.

whenever you save your .tex file, pdf preview in web browser will automatically update