学习笔记-合集

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1. VScode

VS Code是个简化高效的代码编辑器，同时支持如调试、任务执行，版本管理等开发操作。它的目标就是提供一个快速的编码-编译-调试的工具。然后其它的都交给IDE。

快捷键

cmd+k and ctrl+s 打开快捷键一览表。在这里面、你可以查看、搜索、修改快捷键。

选择复制粘贴撤销(VIM)

选定：
esc v： 进入行可视模式 +移动光标进行选择

列操作：esc ctrl+v： 进入列可视模式 +移动上/下光标进行列选择, shift+I（A) 插入

复制： yank（提起） (cmd+c)
y： 复制选定块到缓冲区；
yy： 复制整行（nyy或者yny ， 复制n行，n为数字）；
y^： 复制当前到行头的内容；
y$： 复制当前到行尾的内容；
yw： 复制一个word （nyw或者ynw，复制n个word，n为数字）；
yG： 复制至档尾（nyG或者ynG，复制到第n行，例如1yG或者y1G，复制到档尾）

剪切：delete，(cmd+x)
d： 剪切选定块到缓冲区；
dd： 剪切整行
d^： 剪切至行首
d$： 剪切至行尾

dw： 剪切一个word
dG： 剪切至档尾

粘贴：put（放下）(cmd+v)
p： 贴至游标后
P： 贴至游标前

撤销：u (undo) (cmd+z)
重恢：Ctrl+R

常用插件与环境设置

cmd+p, > Open Settings,打开设置(json)

2. 版本管理工具 Git and github

- Git是一款免费、开源的分布式版本控制系统，用于敏捷高效地处理任何或小或大的项目. 是 Linus Torvalds 为了帮助管理 Linux 内核开发而开发的一个开放源码的版本控制软件。工作原理分为工作区->add->缓存区->commit->本地库(repository)
- Github是一个代码托管云平台和开发者社区，开发者可以在Github上创建自己的开源项目并与其他开发者协作编码。创业公司可以用它来托管软件项目。

Git 操作本地库（Repository

建立本地库

mkdir learning
cd Learning
git init
ls -a, one can find a file .git

设置本地库签名

git config --global user.name xfli376
git config --global user.email xfli376@qq.com

建立文件并添加到缓存区

vim test.md
git status

建立的文件在工作区，可以添加到缓存区 (add)
git add test.md
git status
git rm % 从缓存区删除

把缓存区文件提交到本地库 （Commit）

git commit -m "My First Commit" test.md
git status
git log
git reflog
vim test.md %进行文件修改
git diff test.md
git add test.md %修改后的文件（第二版）添加到缓存区
git commit -m "My second Commit" test.md %提交第二版到本地库
...
git commit -m "My 3rd Commit" test.md " %提交第三版到本地库
git add .
git reflog

提取第X版本文件到工作区

git reflog
回到上一个版本
git rest --hard HEAD^ or HEAD-1
回到上上个版本
git rest --hard HEAD^^ or HEAD-2
回到前第100个版本
git rest --hard HEAD~100
回到指定版本号的版本
git rest --hard 版本号X

并行推进（分支技术）

git branch limen
git branch wangwu
git branch -v
git checkout limen
git branch -v
vim test.md # limen 修改了文件

git add test.md
git checkout master %回到master 分支
git merge limen %把limen 分支的修改内容合并进来
git add test.md
git commit -m "Master merge limen First commit" test.md
git branch -m main master
git fetch origin
git branch -u origin/master master
git remote set-head origin -a

Github 远程操作

在github建立远程库

new respository-> Learning
Create respository

查远程库地址并推送

https 别名 http://github.com/xfli376/Learning.git
SSH 别名 git@github.com:xfli376/Learning.git
Github CLI 别名 gh repo clone xfli376/Learning
git remote add origin git@github.com:xfli376/Learning.git
git push origin master

Clone远程库到本地

mkdir ~/adirection
cd ~/adirection
git clone http://github.com/xfli376/Learning.git

用ssh进行Clonecd

ssh -T git@github.com
git clone git@github.com:xfli376/Learning.git
git fetch origin master

开放给合作者

Settings-> Collaborators-> Add collaborator
合作者lili Accept invitation

git push origin lili

在VScode中的环境设置

3. Markdown

Markdown是一种轻量级标记语言，创始人为约翰·格鲁伯（英语：John Gruber）。 它允许人们使用易读易写的纯文本格式编写文档。John Gruber在2004年创造了Markdown语言，现在有了MultiMarkdown、GitHub Flavored Markdown (GFM)、Pandoc、CommonMark等Markdown的变体。
注意：Markdown 文档中可以直接使用HTML元素！

Markdown 基本语法

These are the elements outlined in John Gruber’s original design document. All Markdown applications support these elements.

注释

> 表示块注释

Heading

```
# H1
## H2
### H3
#### H4
##### H5
###### H6
```

Paragraph

前后空行，表示是一段

Line

文字后空四格（Tab），表示硬换行。

Bold

这样 `**bold text**` ， `__blod text__` ，表示， 可得到 **bold text**， **blod text**

Italic

这样表示 `*italicized text*`， `_italicized text__` 就是 *italicized text*， *italicized text_*

Blockquote (Tab)

```
> blockquote
>
> > necked blockquote
> > necked blockquote
```

得到：

> blockquote
>
> > necked blockquote
> > necked blockquote

Ordered List

1. First item
2. Second item
3. Third item
    1. subitem
    2. subitem

Unordered List

- First item
- Second item
- Third item
    1. subitem
    2. subitem
- New item

Code

in line `code`

Horizontal Rule

```
---
****
```

Link

这是文字连接 `[Markdown Guide](https://www.markdownguide.org)`
Markdown Guide

Image Link

这是插入图片 `![alt text](https://www.markdownguide.org/assets/images/tux.png)`

设置图片大小

Markdown 扩展语法

These elements extend the basic syntax by adding additional features. Not all Markdown applications support these elements.

Table

Syntax	Description
Header	Title
Paragraph	Text
	Text

设置表格的对齐方式：

---: 设置内容和标题栏居右对齐。
:--- 设置内容和标题栏居左对齐。
:---: 设置内容和标题栏居中对齐。

Syntax	Description
Header	Title
Paragraph	Text
	Text

Fenced Code Block

```
{
  "firstName": "John",
  "lastName": "Smith",
  "age": 25
}
```

Footnote

Here's a sentence with a footnote. [1]

Heading ID

```
#### My Great Heading {#custom-id}
```

Definition List

牛顿第二定律

: 物体受力与其运动的关系为

$$\vec{F} = m\vec{a}$$

Strikethrough

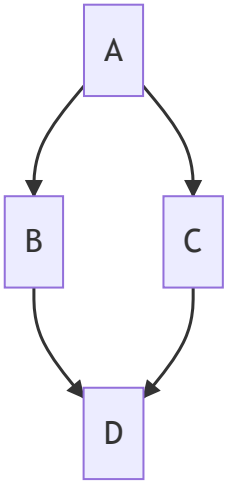
~~The world is flat.~~ But we know it is not true

<u>带下划线文本</u>

Task List

- [x] Write the press release
- [ ] Update the website
- [ ] Contact the media

Mermaid diagramm blocks



Escape character

Markdown 定义了很多特殊符号，如果要使用这些字符的本义，可以在前面加 “\”

Escape character

4. 数学公式输入 (katex)

行内公式与行间公式

行内 $a^2 + b^2 = c^2$ 公式

行间公式

$$a^2 + b^2 = c^2$$

{ } \text{} 和 \operatorname{}

xyz^{xyz}, $xyz^{x}yz$, $\sin(\theta)$, $\sin(\theta)$,

$$f(n) = n^n \quad \mathrm{n} \in N^*$$

字符变大变小

$_{x}$, x, x, x, x, x, x, $\boldsymbol{x}$, $\boldsymbol{x}$, $\boldsymbol{\mathcal{X}}$, $\boldsymbol{\alpha 12bcEF} 12bcEF$

各种字体型

$abc123$, $\mathrm{abc123}$, $\mathit{abc123}$, $\mathsf{abc123}$,$\mathtt{abc123}$, $\mathfrak{abc123}$, $\mathbb{abc123}$, $\mathbb{abc123}$,$\mathbb{abc123}$, $\mathbf{abc123}$, $\boldsymbol{abc123}$

$F = ma$

black on red

空行与空格

用 *or or or or or or or or or or or*ororor来产生空格

用
A
A
进行换行

括号

$\langle\phi|\psi\rangle, \lfloor abc \rfloor, \{abc\}, \langle ab \rangle, (abc)\,, [abc]\,, (abc), \langle abc \rangle, < abc >, \{abc\}, |\frac{a}{b}|, \|\frac{a}{b}\|, |\frac{a}{b}|, \|\frac{a}{b}\|$

$\binom{n}{k}, \binom{n}{k}, \binom{n}{k}, \left\{ {n \atop k} \right\}, \left({n \atop k} \right), \left[{n \atop k} \right]$

$$\left\{\left\{\left\{\{\frac{a}{b}\}\right\}\right\}\right\}$$

$$a = (1 + 2 + 3 + \cdots \\ n - 2 + n - 1 + n)$$

$$f(x)\big|_{x=0}$$

上下关系

$\frac{1}{\frac{\frac{xyz}{x}}{x}}, \quad {}_{y}^{x}, \overset{x}{y}, \overset{x}{y}, \underset{x}{y}, a^{\mathrm{b}}c,$

$$\sum_{i=1}^{N}$$

分数

$\frac{s}{m}, \frac{s}{m}, \frac{s}{m}, \frac{s}{m}$

点和头

$\ldots, \ldots, \cdots, \vdots, \ddots$

$a', a^2, \breve{a}, \dot{a}, \ddot{a}, \hat{a}, \widehat{ace}, \mathring{A}, \vec{F} = m\vec{a}$

数学推导

$\Rightarrow, \ \to, \ \Leftrightarrow, \ \leftrightarrow, \ \nRightarrow, \ \nleftarrow, \ \nLeftrightarrow, \ \Longrightarrow, \ \underset{under}{\overset{over}{\Longrightarrow}}, \ \underset{under}{\overset{over}{\longrightarrow}}, \to, \propto, \approx$

$\Leftrightarrow \nLeftrightarrow \Longleftrightarrow \iff$

$\Rrightarrow \Lleftarrow$

$\Rightarrow \nRightarrow \Longrightarrow \implies$

$\Leftarrow \nleftarrow \Longleftarrow$

$\Uparrow \Downarrow \Updownarrow$

$\leftarrow \to \nleftarrow \nrightarrow \leftrightarrow \nleftrightarrow \longleftarrow \longrightarrow \longleftrightarrow$

$\leftrightharpoons \rightleftharpoons$

$\curvearrowright \circlearrowright$

$\underset{left \quad right}{\overset{}{\longleftrightarrow}}$

$\dagger \ddagger$

$\uparrow \downarrow \updownarrow \nearrow \searrow \nwarrow \swarrow$

$\because, \therefore, \forall, \&, \exists$

求和，积分和极限

$$\sum_{1<i<N} \frac{N-i+1}{i^{N-1}}$$

$$\sum_{i=1}^{N} \frac{N-i+1}{i^{N-1}}$$

$\int_0^\infty f(x)dx,$

$\int\limits_0^\infty f(x)dx,$

$\int\limits_0^\infty f(x)dx,$

$\int, \int, \iint, \iiint, \oint, \oiint, \oiiint$

$\lim_{i \to \infty} \frac{1}{i} = 0$

符号

$\times, \div, \mp, \pm, \oplus, \otimes, \equiv, \neq, \sim, \leq, \geq, \gg, \ll, \geqq, \leqq, \pmod a, \mod a, ., \bullet, \in, \ni, \cong, >,$
$\S, ©, \bigtriangledown, \hbar, \ell, ¥, ^\circ, \angle, \infty, *, \star, \bigstar, \%$

$\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \lambda, \mu, \nu, \xi, \pi, \rho, \sigma, \tau, \upsilon,$

$\phi, \chi, \psi, \omega, \varphi, \varsigma, \varepsilon, \nabla, \partial$

Define

$x^2 + x^2$

$x^2 + y^2$

Direct Input:

§ ¶ £ ¥ ∇ ∞ · ∠ ∡ ∢ ♠ ♡ ♢ ♣ ♭ ♮ ♯ ✓ … ⋮ ⋯ ⋱ ! £ ¥ ∇ ∞ · ∠ ∡ ∢ ♠ ♡ ♢ ♣ ♭ ♮ ♯ ✓ … ⋮ ⋯ ⋱ ! ‼ ⊖

矩阵

$$\begin{matrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{matrix}$$

$$\begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{pmatrix}$$

$$\begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{bmatrix}$$

$$\begin{vmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{vmatrix}$$

$$\begin{Vmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{Vmatrix}$$

数组、数表、方程组

$$\begin{array}{ccc} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 4 & 5 & 6 \end{array}$$

$$\begin{array}{c|cccc:c} 1 & 2 & 3 & 1 & 2 & 3 \\ \hline 2 & 3 & 4 & 2 & 3 & 4 \\ 4 & 5 & 6 & 4 & 5 & 6 \\ \hline\hline 4 & 5 & 6 & 4 & 5 & 6 \end{array}$$

$$\begin{cases} a_1x+b_1y+c_1=0 \\ a_2x+b_2y+c_2=0 \\ a_3x+b_3y+c_3=0 \end{cases}$$

条件式

$$\delta(x)=\begin{cases}1, & \text{if} x=0\\ 0, & \text{if} x\neq 0\end{cases}$$

一般公式、多行公式对齐及公式编号

$$x^2+y^2=1 \tag{1}$$

$$x^2+y^2=1 \tag{1}$$

$$\begin{aligned} a &= a+c \\ &= a+b+d \end{aligned}$$

$$\begin{cases} 10x+3\ \ y=20 \\ \ 8x+13y=8 \end{cases}$$

声调 / 变音符号

$\dot{a}\ddot{a}\acute{a}\grave{a}$

$\check{a}\breve{a}\tilde{a}a^2$

$\hat{a}\widehat{a}\vec{a}$

标准函数

$\exp_a b = a^b \exp b = e^b 10^m$

$\sin a \cos b \tan c \sec d \csc e \cot f$

$\arcsin a \arccos b \arctan c$

$\sinh a \cosh b \tanh c \coth d$

$\sh a \ch b \th c$

$\argsh a \argch b \argth c$
貌似可以将任何字符转换成标准函数的形式。

$|a| \min(x, y) \max(x, y)$

界限

$\min x \max y \inf s \sup t$

$\lim u \liminf v \limsup w$

$\dim p \deg q \det m \ker \phi$

投射

ps:感觉这翻译很奇怪，应该是映射吧。

$\Pr j \hom l \|z\| \arg z$

微分及导数

$dt \mathrm{d}t \partial t \nabla \psi$

$\turnAnd f' f' f'' f^{(3)} \dot{y} \ddot{y}$

类字母符号及常数

$\infty \aleph \complement \ni \eth \beth \hbar$

$\Finv \imath \jmath \Bbbk \ell \mho \wp \Re \circledS$

模算数

$a \equiv 1 \pmod{m}$

$a \bmod b$

$\gcd(m, n) \operatorname{lcm}(m, n)$

$\nmid \nparallel$

根号

$\sqrt{\sqrt{2}} \sqrt[n]{\sqrt[n]{x}}$

运算符

$+ - \pm \mp \dotplus$

$\times \div \divideontimes /\backslash$

$\cdot * \star \circ \bullet$

$\boxplus \boxminus \boxtimes \boxdot$

$\oplus \ominus \otimes \oslash \odot$

$\circleddash \circledcirc \circledast$

$$\bigoplus \bigotimes \bigodot$$

集合

$\{\} \emptyset \varnothing$

$\in \notin \not\in \ni \not\ni$

$\cap \Cap \sqcap \bigcap$

$\cup \Cup \sqcup \bigcup \bigsqcup \uplus \biguplus$

$\setminus \smallsetminus \times$

$\subset \Subset \sqsubset$

$\supset \Supset \sqsupset$

$\subseteq \nsubseteq \subsetneq \varsubsetneq \sqsubseteq$

$\supseteq \nsupseteq \supsetneq \varsupsetneq \sqsupseteq$

$\subseteqq \nsubseteqq \subsetneqq \varsubsetneqq$

$\supseteqq \nsupseteqq \supsetneqq \varsupsetneqq$

关系符号

$= \neq \neq \equiv \not\equiv$

$\doteq \doteqdot \overset{def}{=} :=$

~≁≃~≃≒≃≇

≈≋≅≍∝∝

<≮≪≪⋘⋘ ⩽

>≯≫≫⋙⋙ ⩾

≤≤≤≦≮≨≦≒

≥≥≥≧≯≩≧≒

⩽⩽≦≫≦≡

⩽≮⩽

⩾⩾⩾

≲≲≲≲

≳≳≳≳

≺≮≺≮≺

≻≯≻≯≻

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≿≿

≾≾≾≾

≿≿≿≿

几何符号

⫴⫳⫶

⊥ ∠⦡⦟45°

□■⬦◊◊⧫★

◯△ △ ▽

△ ▽ ◁ ▷

▲▼ ◄►

逻辑符号

∀∃∄

∴∵ &

∨ ∨ ⅄ ⋁

∧ ∧ ⅄ ⋀

$q^2abc^2\overline{q}\overline{abc}$

¬¬⊥⊤

⊢⊣⊨⊩⊧

⫴⊩⊮⊯⫤

⌜⌝⌞⌟

箭头

⇛⇚

⇒↛⟹ ⟹

⇐↚⟸

⇔↮⟺ ⟺

⇞⇟⇳

←→↜⇾↔↭⟵ ⟶⟷
←→

↑↓↕↗↘↖↙

↦⟼⟶

⇀⇁↼↽⥮⥯⇋⇌

↶↺↰⇈⇉⇄↣↬

↷↻↱⇊⇇⇆↢↫

$\hookrightarrow\hookleftarrow\multimap\leftrightsquigarrow\rightsquigarrow\twoheadrightarrow\twoheadleftarrow$

$\overleftarrow{left}\quad\overrightarrow{right}\quad\overleftrightarrow{Left}\quad\overrightarrow{Right}\quad\overleftrightarrow{left\&right}\quad\overrightarrow{Left\&Right}$

特殊符号

$\amalg\%\dagger\ddagger\ldots\cdots$

$\smile\frown\wr$

$\diamondsuit\heartsuit\clubsuit\spadesuit\supset\flat\natural\sharp$

$/\!\!\setminus\cdot\propto\bowtie\rightthreetimes\leftthreetimes$

$\doteqdot\circeq\triangleq\eqcirc\circeq\fallingdotseq\risingdotseq\eqcirc$

$\top\barwedge\veebar\barwedge\curlywedge\curlyvee$

$\lhd\ntriangleleft\rhd\ntriangleright$

$\trianglelefteq\ntrianglelefteq\trianglerighteq\ntrianglerighteq$

$\LaTeX$

上标、下标及积分等

a^2

a_2

$a^{2+2}a_{i,j}$

a_2^2

${}_1^2X_4^3$

导数

$(HTML)x'(PNG)x'$(错误)$x\prime$

导数点

$\dot{x}\ddot{x}$

向量

$\vec{x}\overleftrightarrow{AB}\overrightarrow{AB}\overgroup{AB}$

上弧

$\overset{\frown}{AB}$

上划线

$\overline{ABC}$

下划线

$\underline{ABC}$

上括号

$\overbrace{1+2+\cdots+100}^{5050}$

$\overbrace{1+2+\cdots+100}$

下括号

$\underbrace{1+2+\cdots+100}_{5050}$

$\underbrace{1+2+\cdots+100}$

求和

$\sum_{i=1}^{n} a_i$ $\sum\limits_{i=1}^{n} a_i$

求积

$\prod_{i=1}^{n} a_i$ $\prod\limits_{i=1}^{n} a_i$

上积

$\coprod_{i=1}^{n} a_i$ $\coprod\limits_{i=1}^{n} a_i$

极限

$\lim_{n\to\infty} x_n$ $\lim\limits_{n\to\infty} x_n$

积分

$\int_{-N}^{N} e^x\,dx$

双重积分

$\iint_{M}^{N} dx\,dy$

三重积分

$\iiint_{M}^{N} dx\,dy\,dz$

闭合的曲线、曲面积分

$\oint_C x^3\,dx + 4y^2\,dy$

交集

$\bigcap_1^n p \bigcap_1^n p$

并集

$\bigcup_1^n p \bigcup_1^n p$

分数

$\frac{1}{2} = 0.5$

小型分数

$\frac{1}{2} = 0.5$

大型分数

$$\frac{1}{2} = 0.5 \frac{1}{x + \frac{3}{y + \frac{1}{5}}}$$

二项式系数

$$\binom{n}{m} = \binom{n}{n-m} = C_n^m = C_n^{n-m}$$

$$\binom{n}{m} = \binom{n}{n-m} = C_n^m = C_n^{n-m}$$

$$\binom{n}{m} = \binom{n}{n-m} = C_n^m = C_n^{n-m}$$

矩阵

$$\begin{matrix} a & b \\ c & d \end{matrix}$$

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix}$$

$$\begin{Vmatrix} a & b \\ c & d \end{Vmatrix}$$

$$\begin{bmatrix} a & \cdots & b \\ \vdots & \ddots & \vdots \\ c & \cdots & d \end{bmatrix}$$

$$\begin{Bmatrix} a & c \\ b & d \end{Bmatrix}$$

$$\begin{pmatrix} a & c \\ b & d \end{pmatrix}$$

矩阵嵌套

$$\begin{vmatrix} \begin{Bmatrix} A & \\ c & d \end{Bmatrix} & \begin{matrix} \\ x \end{matrix} \\ \begin{matrix} \\ \frac{1}{2} \end{matrix} & \begin{matrix} 1 & 2 \\ 3 & 4 \end{matrix} \end{vmatrix}$$

条件定义(如分段函数)

$$f(x) = \begin{cases} x-1 & x \leqslant 3 \\ x^2 + 3x - 1 & x > 3 \end{cases}$$

方程组

$$\begin{cases} 2x + 9y - 5z = 10 \\ 4x + 20y + z = 24 \\ x - \dfrac{1}{2}y + 3z = 8 \end{cases}$$

多行等式

$$
\begin{aligned}
f(x) &= (x+1)^2 \\
&= x^2 + 2x + 1 \\
a_1 &= 1 \\
a_2 &= 2 \\
&\cdots \\
a_n &= n
\end{aligned}
$$

数组 表格

$$
\left|\begin{array}{c|c||c}
x & y & z \\
8 & 2 & 4 \\
2 & 3 & 9 \\
10 & \frac{3}{4} & \sqrt{3} \\
a & b & c
\end{array}\right|
$$

希腊字

$$
\begin{aligned}
&\mathrm{AB\Gamma\Delta} EZH\Theta \\
&\mathrm{IK\Lambda} MN\Xi O\Pi \\
&\mathrm{P\Sigma} T\Upsilon\Phi X\Psi\Omega \\
&\alpha\beta\gamma\delta\epsilon\zeta\eta\theta \\
&\iota\kappa\lambda\mu\nu\xi o\pi \\
&\rho\sigma\tau\upsilon\phi\chi\psi\omega \\
&\varepsilon\digamma\varkappa\varpi \\
&\varrho\varsigma\vartheta\varphi
\end{aligned}
$$

希伯来符号

$$
\aleph\beth\gimel\daleth
$$

黑板粗体

$$
\mathbb{ABCDEFGHIJKLMNOPQRSTUVWXYZ}
$$

粗体

$$
\begin{aligned}
&\mathbf{ABCDEFGHIJKLMNOPQRSTUVWXYZ} \\
&\mathbf{abcdefghijklmnopqrstuvwxyz} \\
&\mathbf{0123456789}
\end{aligned}
$$

斜体(英文字母和小写希腊字母默认)

ABΓΔEZHΘ
IKΛMNΞOΠ
PΣTΥΦXΨΩ
0123456789

罗马体

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

打字机字体

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
ABΓΔEZHΘ
IKΛMNΞOΠ
PΣTΥΦXΨΩ
0123456789

无衬线体

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
ABΓΔEZHΘ
IKΛMNΞOΠ
PΣTΥΦXΨΩ
0123456789

手写体 花体

ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789

FrakturFraktur 体

𝔄𝔅ℭ𝔇𝔈𝔉𝔊ℌℑ𝔍𝔎𝔏𝔐𝔑𝔒𝔓𝔔ℜ𝔖𝔗𝔘𝔙𝔚𝔛𝔜ℨ
abcdefghijklmnopqrstuvwxyz
0123456789

小型非斜体字

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789

斜体字符

xyz

非斜体字符

x y z中文

混合斜体与非斜体

if n is even

括号

$(\frac{1}{2})(\frac{1}{x+\frac{2}{3}})$

$\left(\frac{1}{2}\right)\left(\frac{1}{x+\frac{2}{3}}\right)$

圆括号 小括号

$\left(\frac{1}{2}\right)$

方括号 中括号

$\left[\frac{1}{2}\right]$

花括号 大括号

$\left\{\frac{1}{2}\right\}$

角括号

$$\left\langle \frac{1}{2} \right\rangle$$

单竖线 绝对值

$$\left| \frac{1}{2} \right|$$

双竖线

$$\left\| \frac{1}{2} \right\|$$

向下取整

$$\left\lfloor \frac{1}{2} \right\rfloor$$

向上取整

$$\left\lceil \frac{1}{2} \right\rceil$$

斜线

$$/ \frac{1}{2} /$$

反斜线

$$\backslash \frac{1}{2} \backslash$$

上下箭头

$$\uparrow \frac{1}{2} \uparrow$$

$$\uparrow \frac{1}{2} \uparrow$$

$$\Downarrow \frac{1}{2} \Downarrow$$

$$\updownarrow \frac{1}{2} \updownarrow$$

$$\left\langle \frac{1}{2} \right/$$

$$\left(\frac{1}{2}, 1 \right]$$

$$\left(\frac{1}{2}$$

$$\frac{1}{2} \right]$$

$$\left(\left[\left\{ \langle x \rangle \right\} \right] \right)$$

紧贴

xy

小空格

$x\,y$

中等空格

$x\ y$

大空格

$x\;y$

quad 空格

$x\quad y$

两个 quad 空格

$x\qquad y$

颜色

字体颜色：{ \color{色调} 表达式} \
背景颜色：{ \color{文字色调} \colorbox{背景色调}{表达式(可以打中文)} }

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

LaTeX公式大全

把数学公式框起来

$$\boxed{\sum_{i=1}^{n} i = \frac{n(n-1)}{2}}$$

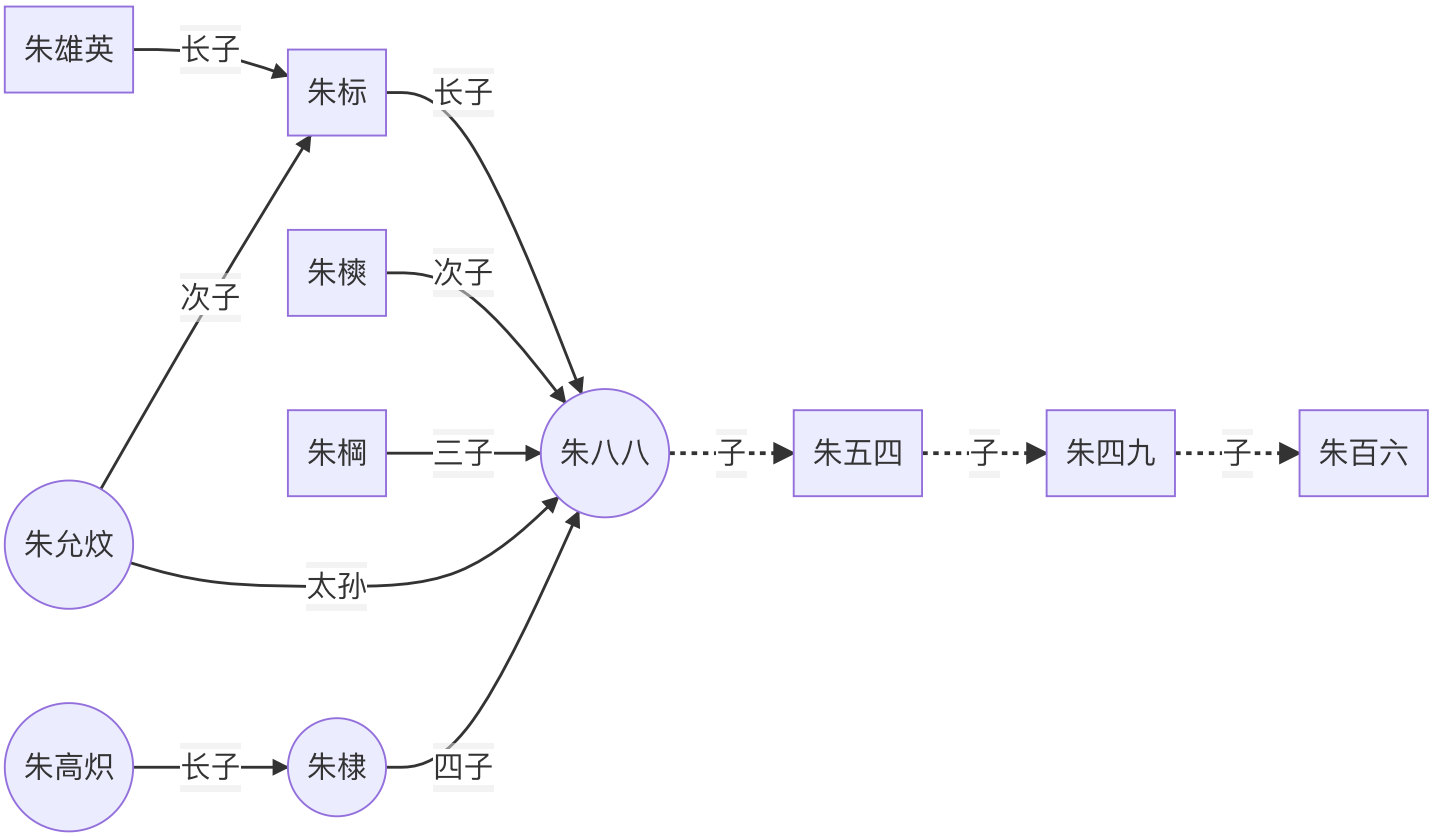
5. Mermaid 语法

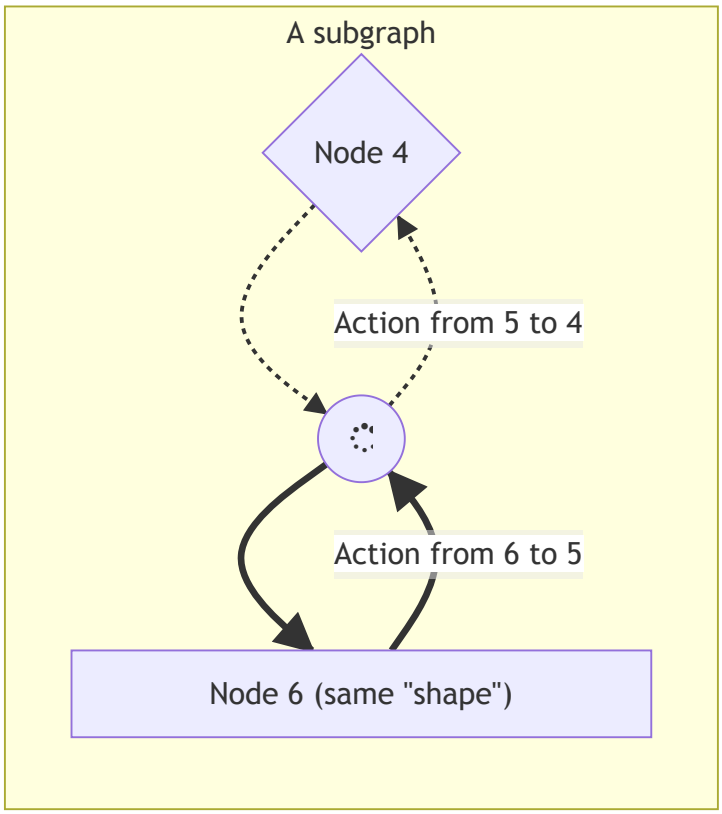
Mermaid lets you create diagrams and visualizations using text and code.

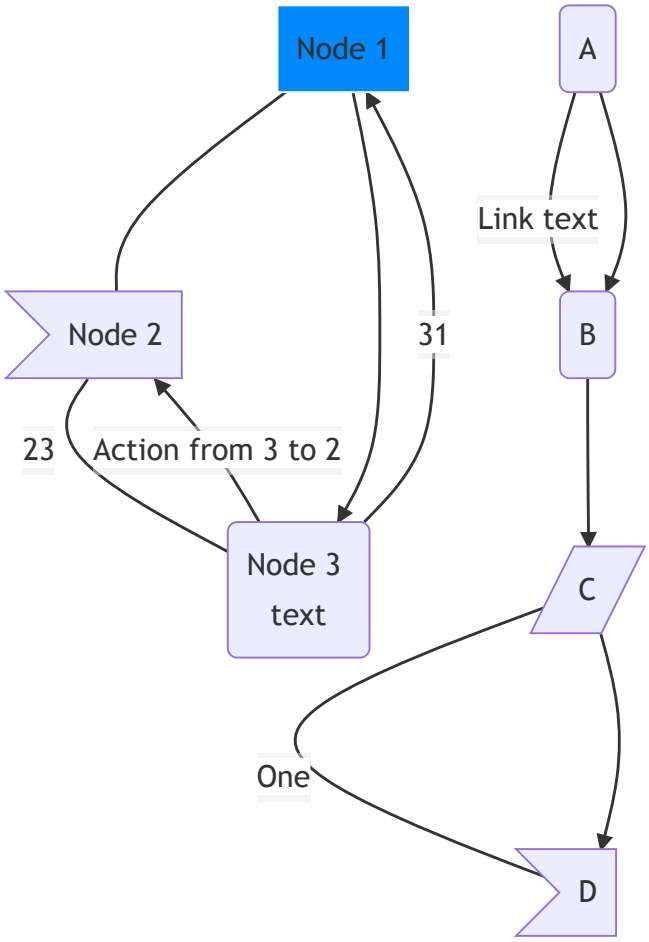
It is a Javascript based diagramming and charting tool that renders Markdown-inspired text definitions to create and modify diagrams dynamically.

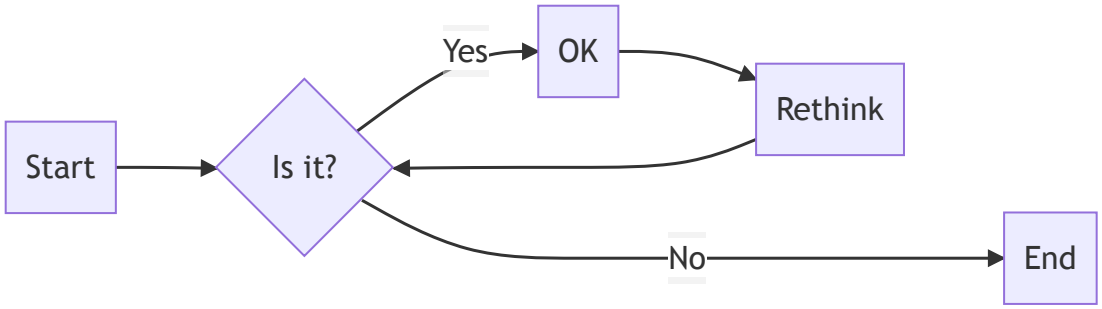
项目： https://github.com/mermaid-js/mermaid

实例： 流程图做朱元璋家谱（圆圈代表皇帝）









图的类型

- 饼状图：pie
- 流程图：graph
- 时序图：sequenceDiagram
- 甘特图：gantt
- 类图： classDiagram
- 状态图：stateDiagram
- 旅程图：journey

- 实体-联系图: erDiagram

方向：声明流程图的方向。

- graph或graph TB或graph TD：从上往下
- graph BT：从下往上
- graph LR：从左往右
- graph RL：从右往左

结点(graph)

- 结点名-ID，
- 结束内容，括号里的内容
- 结点形态，由括号形态决定
  - 默认方形
  - id1[方形]
  - id2(圆边矩形)
  - id3([体育场形])
  - id4[[子程序形]]
  - id5[(圆柱形)]
  - id6((圆形))
  - id7<左角右方形]
  - id8{菱形}
  - id9{{六角形}}
  - id10[/平行四边形/]
  - id11[\反向平行四边形]
  - id12[/梯形]
  - id13[\反向梯形/]
  - id14[(Database)]

连线(graph)

- 实线箭头
  - a-->b
  - a--ab-->b
  - a-->|ab| b
- 粗实线箭头
  - a==>b
  - a==ab==>b
  - a==>|ab| b

- 虚线箭头
  - a-.->b
  - a-.ab.->b
- 无箭头连线
  - a--b
  - a-.-b
  - a== b
- 样式

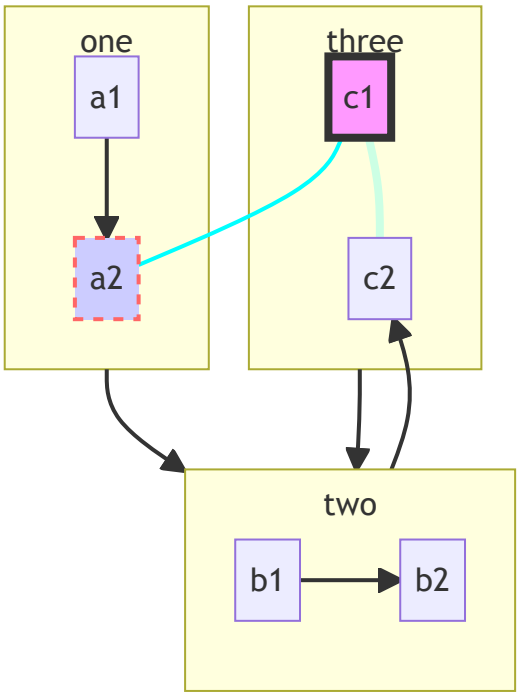
  linkStyle 0 stroke:#0ff,stroke-width:2px;

  linkStyle 3 stroke:#ff3,stroke-width:4px;

  style id1 fill:#f9f,stroke:#333,stroke-width:4px

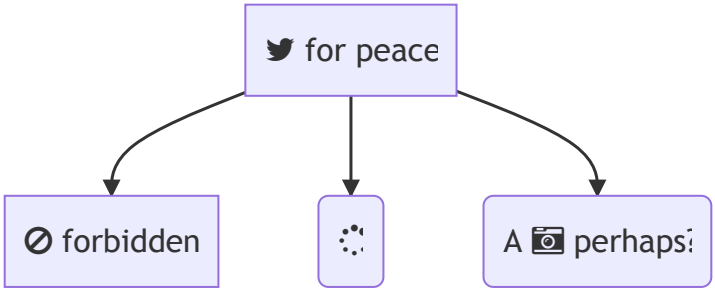
  style id2 fill:#ccf,stroke:#f66,stroke-width:2px,stroke-dasharray: 5, 5

子图

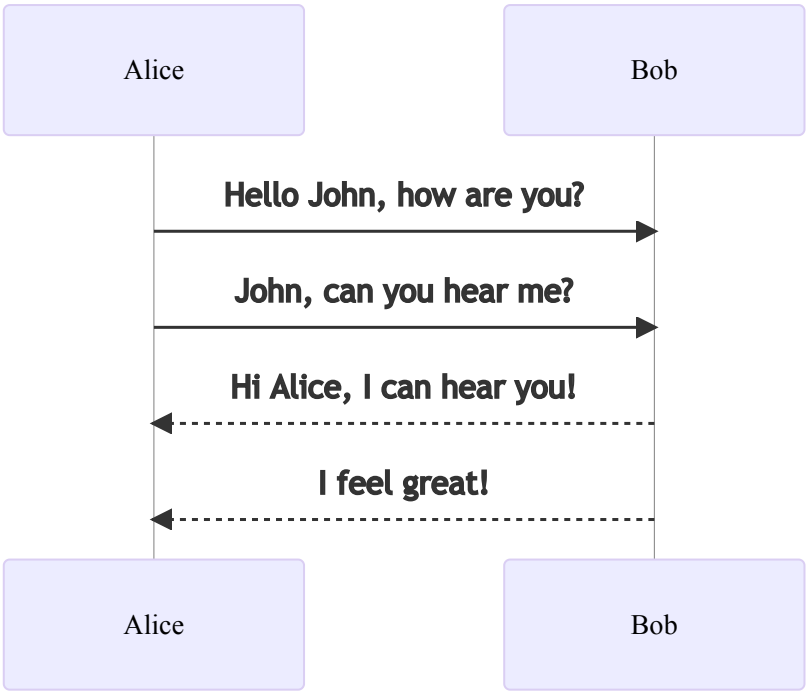


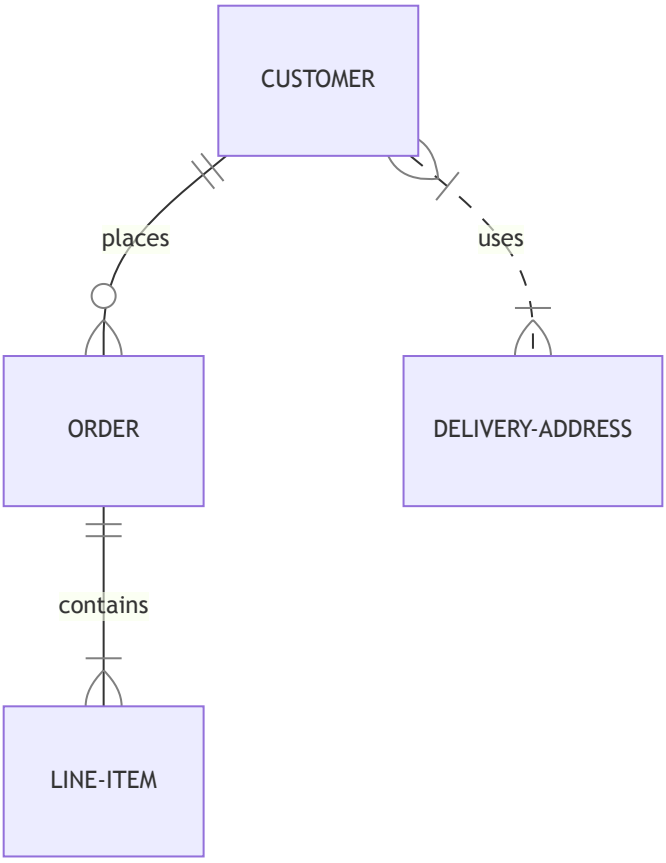
图标

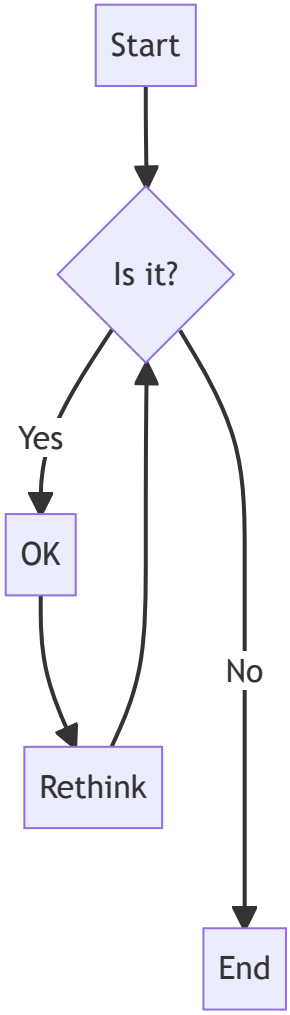
使用 Font Awesome 图标, 语法: fa:icon class-name

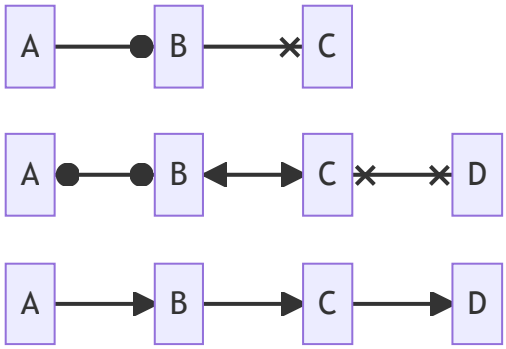

for peace
forbidden
perhaps

其他实例: 1.时序图:


Alice
Bob
Hello John, how are you?
John, can you hear me?
Hi Alice, I can hear you!
I feel great!
Alice
Bob


CUSTOMER
places
uses
ORDER
DELIVERY-ADDRESS
contains
LINE-ITEM





6. Reveal.js+markdown+vscode 制作PPT

前言

reveal-md 是使用 Markdown 和 HTML 写逼格满满的 PPT 的开源项目

项目地址：[reveal-md]{https://github.com/webpro/reveal-md}

特点

Reveal.js 可以使用 markdown 语言直接写静态的文本，并可以加入各种 html 语言支持的交互动画，reveal.js 是一个开放源代码 HTML 表示框架。它使使用 Web 浏览器的任何人都可以免费创建功能齐全且美观的演示文稿
该框架具有广泛的功能，包括嵌套幻灯片，Markdown 支持，自动动画，PDF 导出，演讲者注释，LaTeX 支持，语法突出显示的代码等等

项目地址：[reveal.js]{https://github.com/hakimel/reveal.js/archive/master.zip}

Reveal 安装

- npm install -g reveal-md
- git clone https://github.com/hakimel/reveal.js.gif
- cd reveal.js && npm install
- npm start &

环境

- vscode-reveal
- Markdown All in One
- Markdown Preview Enhanced
- view-in-browser

Markup

Here's a barebones example of a fully working reveal.js presentation:

```
<html>
  <head>
    <link rel="stylesheet" href="dist/reveal.css">
    <link rel="stylesheet" href="dist/theme/white.css">
  </head>
  <body>
    <div class="reveal">
      <div class="slides">
        <section>Slide 1</section>
        <section>Slide 2</section>
      </div>
    </div>
    <script src="dist/reveal.js"></script>
    <script>
      Reveal.initialize();
    </script>
  </body>
</html>
```

Markdown

```
<section data-markdown>
  <textarea data-template>
    ## Slide 1
    A paragraph with some text and a [link](http://hakim.se).
    ---
    ## Slide 2
    ---
    ## Slide 3
  </textarea>
</section>
```

Markdown Plugin

```
<script src="plugin/markdown/markdown.js"></script>
<script>
  Reveal.initialize({
    plugins: [ RevealMarkdown ]
  });
</script>
```

External Markdown

This feature requires that reveal.js runs from a local web server.

```
<section data-markdown="example.md"
         data-separator="^\n\n\n"
         data-separator-vertical="^\n\n"
         data-separator-notes="^Note:"
         data-charset="iso-8859-15">
    <!--
        Note that Windows uses `\r\n` instead of `\n` as its linefeed character.
        For a regex that supports all operating systems, use `\r?\n` instead of `\n`.
    -->
</section>
```

Themes

- black: Black background, white text, blue links (default)
- white: White background, black text, blue links
- league: Gray background, white text, blue links
- beige: Beige background, dark text, brown links
- sky: Blue background, thin dark text, blue links
- night: Black background, thick white text, orange links
- serif: Cappuccino background, gray text, brown links

--

- simple: White background, black text, blue links
- solarized: Cream-colored background, dark green text, blue links
- blood: Dark background, thick white text, red links
- moon: Dark blue background, thick grey text, blue links

--

Themes 选择

1. 在md文件最前面加上一句 theme : "black"
2. 在导出的index.hrml 中改

```
<link rel="stylesheet" href="dist/theme/black.css">
```

3. you can opt to start from a blank CSS document and customize everything from the ground up

Transitions

- none: Switch backgrounds instantly
- fade: Cross fade — default for background transitions
- slide: Slide between backgrounds — default for slide transitions
- convex: Slide at a convex angle
- concave: Slide at a concave angle
- zoom: Scale the incoming slide up so it grows in from the center of the screen

Transitions 选择

```
<section data-transition="slide">
    The train goes on …
</section>
<section data-transition="slide">
    and on …
</section>
<section data-transition="slide-in fade-out">
    and stops.
</section>
<section data-transition="fade-in slide-out">
    (Passengers entering and leaving)
</section>
<section data-transition="slide">
    And it starts again.
</section>
```

```
Reveal.initialize({
  backgroundTransition: 'slide'
});
```

Configuration Options

```
Reveal.initialize({

  // Display presentation control arrows
  controls: true,

  // Help the user learn the controls by providing hints, for
  // bouncing the down arrow when they first encounter a ...
  controlsTutorial: true,

  // Determines where controls appear, "edges" or ...
  controlsLayout: 'bottom-right',
  ...
  });



// Turn autoSlide off
Reveal.configure({ autoSlide: 0 });

// Start auto-sliding every 5s
Reveal.configure({ autoSlide: 5000 });
```

Presentation Size

```
Reveal.initialize({
  // The "normal" size of the presentation, aspect ratio will
  // be preserved when the presentation is scaled to fit different
  // resolutions. Can be specified using percentage units.
  width: 960,
  height: 700,

  // Factor of the display size that should remain empty around
  // the content
  margin: 0.04,

  // Bounds for smallest/largest possible scale to apply to content
  minScale: 0.2,
  maxScale: 2.0
});
```

Center

Slides are vertically centered on the screen based on how much content they contain. To disable this and leave slides fixed at their configured height set center to false.

```
Reveal.initialize({ center: false })
```

Embedded

By default, reveal.js will assume that it should cover the full browser viewport. If you want to embed your presentation within a smaller portion of a web page, or show multiple presentations on the same page, you can use the embedded config option.

```
Reveal.initialize({ embedded: false })
```

Color Backgrounds

```
<section data-background-color="aquamarine">
  <h2>🐟</h2>
</section>
<section data-background-color="rgb(70, 70, 255)">
  <h2>🐋</h2>
</section>
```

Image Backgrounds

```
<section data-background-image="http://example.com/image.png">
  <h2>Image</h2>
</section>
<section data-background-image="http://example.com/image.png"
          data-background-size="100px" data-background-repeat="repeat">
  <h2>This background image will be sized to 100px and repeated</h2>
</section>
```

Media

Autoplay

```
<video data-autoplay src="http://clips.vorwaerts-gmbh.de/big_buck_bunny.mp4"></video>


Reveal.initialize({
        autoPlayMedia: true
})
```

7. MPE+reveal.js 做PPT

Markdown Preview Enhanced（MPE） is a SUPER POWERFUL markdown extension for Atom and Visual Studio Code. The goal of this project is to bring you a wonderful markdown writing experience.

Features

- Automatic scroll sync
- Import external files
- Code Chunk
- Pandoc
- Prince
- eBook
- Presentation Writer
- Extensible
- LaTeX math
- Export PDF, PNG, and JPEG by Puppeteer
- Export beautiful HTML (mobile device supported)
- Compile to GitHub Flavored Markdown
- Customize Preview CSS
- TOC generation
- Flowchart / Sequence diagram and many other kinds of graphs
- Embed LaTeX, render TikZ, Chemfig etc
- Task List (Github Flavored)
- Image Helper
- Footnotes
- Front Matter
- And many more...

presentation

Markdown Preview Enhanced uses reveal.js to render beautiful presentations.

presentation themes

- "beige.css"
- "black.css"
- "blood.css"
- "league.css"
- "moon.css"
- "night.css"
- "serif.css"
- "simple.css"
- "sky.css"
- "solarized.css"
- "white.css"
- "none.css"

Presentation Front-Matter

You can configure your presentation by adding front-matter to your markdown file.

```
---
presentation:
  width: 800
  height: 600
  theme: white.css
  slideNumber: false
  center: true
  fragments: true
  transition: # none/fade/slide/convex/concave/zoom
  backgroundTransition: 'default' # none/fade/slide/convex/concave/zoom
---
```

New slide

```
<!-- slide -->

Your slides goes here...

<!-- slide id="my-id" class="my-class1 my-class2" -->

Your slides goes here...
```

New in-line-number

```
1 function add(x, y) {
2   return x + y;
3 }
```

ExtendedTable

Need to enable enableExtendedTableSyntax in extension settings to get it work.

Syntax	Description
Header	Title
Paragraph	Text
	Text

Emoji & Font-Awesome

😄

🚗

30th

H_2O

The HTML specification
is maintained by the W3C.

marked

!!! note This is the admonition title
This is the admonition body

$$x^2 + y^2 = 1$$

mermaid {code_block=true}

puml {align="center"}

mermaid {filename="my_mermaid.png"}

TOC

Markdown Preview Enhanced can create TOC for your markdown file. You can press cmd-shift-p then choose Markdown Preview Enhanced: Create Toc to create TOC. Multiple TOCs can be created. To exclude a heading from the TOC, append {ignore=true} after your heading.

1. This is the footnote. ↩