LaTeX Cheat Sheet — Youhao HU

Two columns

```
\begin{columns}
\begin{column}{.5\linewidth}
Here is the content in column 1
\end{column}
\begin{column}{.5\linewidth}
Here is the content in column 2
\end{column}
\end{columns}
```

Footnote in two columns

Footnote mark is in one of the column, but the footnote is at the bottom of the page.

```
\begin{frame}
\begin{columns}
\begin{column}{.5\linewidth}
Here is the content in column 1 \footnotemark[1]
\end{column}
\begin{column}{.5\linewidth}
Here is the content in column 2
\end{column}
\end{columns}
\footnotetext[1]{This is the first footnote}
\end{frame}
```

Figure with 1 title

```
\begin{figure}
\caption{HKUSTGZ Logo}
\includegrapics[width=.5\linewidth](USTGZ.png)
\label{fig:USTGZLogo}
\end{figure}
```

Figure path setting

Set the images path as `./images/`

```
\usepackage{graphicx}
\graphicspath{{images/}}
```

Figure options

```
\includegraphics[scale=0.1](USTGZ.png)
\includegraphics[width=.5\linewidth](USTGZ.png)
\includegraphics[height=1cm](USTGZ.png)
```

Figure with 2+ titles (no label)

```
\begin{center}
\includegraphics[width=.4\linewidth]{SMC.png}
\includegraphics[width=.4\linewidth]{TSMC.png}\\
SMC (Left) and TSMC (Right) comparison
\end{center}
```

Figure with 2+ titles (1 label)

```
\begin{figure}
\centering
\includegraphics[width=.4\linewidth]{SMC.png}
\includegraphics[width=.4\linewidth]{TSMC.png}\\
\caption{SMC (Left) and TSMC (Right) comparison}
\label{fig:TSMCom}
\end{figure}
```

Figure with 2+ titles (2+ labels)

```
\usepackage{graphicx}
\usepackage{subcation}

\begin{figure}
\caption{SMC with changing load}
\begin{subfigure}{.4\linewidth}
\caption{Scope}
\includegraphics[width=\linewidth]
    {SMC_15_25_Scope.png}
\end{subfigure}
\begin{subfigure}{.4\linewidth}
\caption{MATLAB}
\includegraphics[width=\linewidth]
    {SMC_15_25.png}
\end{subfigure}
\label{fig:Tracking}
\end{figure}
```

Remark environment

```
\newtheorem{assumption}{Assumption}
\newtheorem{remark}{Remark}
\newtheorem{figurebox}{\quad} % To render a box
    only, used in beamer
```

Which is rendered as:

Assumption 1 *This is a new assumption.*

Break the column

- `\columnbreak`

DIY your own counter

```
\newcount\myfigurecount
\newcount\mytablecount
\myfigurecount = 1
\mytablecount = 1
```

Usage:

```
Table \the\mytablecount. Some rules of the
    regular expression
\advance\mytablecount by 1
Table \the\mytablecount. Other rules of the
    regular expression
```

Rendered as below:

Table 1. Some rules of the regular expression

Table 2. Other rules of the regular expression

VSCODE usilization

Table 1. Some shortcut keys in VSCODE

Keys	Description
⌘ + ⇧ + p	Open command palette
⌘ + ⇧ + x	Open extension tab
⌘ + ⌥ + v	Open internal PDF viewer
⌘ + ⌥ + z	Line-wrap switch
⌘ + ⌥ + x	Open LaTeX Workshop plate
⌘ + clicking	Navigate content from PDF to tex file

Fancy keys/manus/paths

```
\usepackage{menukeys}
\renewmenumacro{\keys}[+]{shadowedroundedkeys}
\renewmenumacro{\menu}[>]{roundedmenus}
\renewmenumacro{\path}[/]{pathswithfolder}

\menu{Extras > Settings > {Units, rulers and
    origin}}
\path{/Users/youhao/mdfiles/research\_related/
    latex\_cheatsheet.tex}
\keys{\Alt + \shift + x}
```

Which is rendered as:

Extras › Settings › Units, rulers and origin

🗀 ▸ Users ▸ youhao ▸ mdfiles ▸ research_related ▸ latex_cheatsheet.tex

⌥ + ⇧ + x

CircuitTikz vertical line

```
\begin{circuitikz}
\draw (0,0) \coord(origin);
\draw (2,2) \coord(U1);
\draw (U1) -- (origin-|U1) \coord(B1);
\draw (origin) -- (B1);
\end{circuitikz}
```