

# Writing papers and thesis using L<sup>A</sup>T<sub>E</sub>X2e

## Part II: Writing papers and thesis using L<sup>A</sup>T<sub>E</sub>X

Krishna Kumar <sup>\*1</sup>

<sup>1</sup>King's College  
University of Cambridge

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<sup>1</sup>kks32@cam.ac.uk

# Figures

- $\text{\LaTeX}$  can be easily extended using a *package* to typeset images.
- To use graphics in your  $\text{\LaTeX}$  document use `\usepackage{graphicx}`
- Always use relative scaling to specify the width of the figure, i.e.,  
`[width = 0.75\textwidth]`
- Never ever use absolute values to scale your images!
- Set either the width or the height of the image. Or use `scale`

```
\begin{figure}  
\includegraphics[width=0.75\textwidth]  
                {figs/minion}  
\end{figure}
```



# Figures

- For captioning a figure, you can use `\usepackage{caption}`
- tweak the location, label, separator: `[labelsep=space, tableposition=top]{caption}`
- I prefer to centre the figure. To do that use `\centering`
- You can use `~\cref{fig:minion}` to cross reference the figure.

```
\begin{figure}
\centering
\includegraphics[width=0.75\textwidth]{figs/minion}

\caption[Minion]{
Dave the Minion from Despicable Me!}
\label{fig:minion}
\end{figure}
```



Figure: Dave the Minion from Despicable Me!

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Parameter	Position
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h	Place the float here, i.e., approximately at the same point it occurs in the source text (however, not exactly at the spot)
t	Position at the top of the page.
b	Position at the bottom of the page.
p	Put on a special page for floats only.
!	Override internal parameters LaTeX uses for determining "good" float positions.
H	Places the float at precisely the location in the LaTeX code. Requires the float package. This is somewhat equivalent to h!

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# Subcaption

I can cite Wall-E (see fig. 2b) and Minions in despicable me (fig. 2c). Figure 2 lets me cite the whole figure.

```
\begin{figure}
\centering
\begin{subfigure}[b]{0.3\textwidth}
\includegraphics[width=\textwidth]
{figs/TomandJerry}
\caption{Tom and Jerry}
\label{fig:TomJerry}
\end{subfigure}
\begin{subfigure}[b]{0.3\textwidth}
\includegraphics[width=\textwidth]{figs/WallE}
\caption{Wall-E}
\label{fig:WallE}
\end{subfigure}
\begin{subfigure}[b]{0.3\textwidth}
\includegraphics[width=\textwidth]{figs/minion}
\caption{Minions}
\label{fig:Minnion}
\end{subfigure}
\caption{Best Animations}
\label{fig:animations}
\end{figure}
```

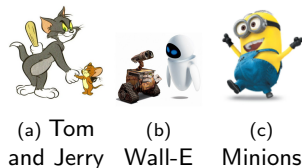


Figure: Best Animations

# Exercise 6: Pictures

Click to open this exercise in **wri~~te~~LaTeX**

- Please upload the figures in **figs/** to the writeLaTeXproject. or point to raw URLs on github.
- Format these the King's college picture. Change it's location: (top, bottom, here, new page)
- Arrange Tom, Walle and Dave inside a single figure environment vertically.
- Use Fig. to refer to figures
- Create a list of figures.

Click to open my solution.



# Table Environment

Option	Description
<code>l</code>	left-justified column
<code>c</code>	centered column
<code>r</code>	right-justified column
<code>p{'width'}</code>	paragraph column with text vertically aligned at the top
<code>m{'width'}</code>	paragraph column with text vertically aligned in the middle
<code>b{'width'}</code>	paragraph column with text vertically aligned at the bottom
<code>\&amp;</code>	column separator
<code>\\</code>	start new row (additional space may be specified)
<code>\cmidrule{i-j}</code>	partial horizontal line beginning in column i and ending in column j



# Exercise 7: Tables

Click to open this exercise in **write $\text{\LaTeX}$**

- Use `tabularx` package for tables with paragraph text.
- Never use `\hline` or `\cline`, use `\toprule`, `\midrule`, `\bottomrule` and `\cmidrule{i-j}`

Click to open my solution.