

Demo of Hassium Style

Hassium

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1 Packages and General Setup

This style contains the following packages:

```
\usepackage[T1]{fontenc}
\usepackage[hidelinks]{hyperref}
\usepackage[explicit]{titlesec}
\usepackage[utf8]{inputenc}
\usepackage{amsmath,amsthm,amssymb,amsfonts,mathrsfs,mathtools,nicematrix,chgcntr,
centernot,ytableau,tikz-cd}
\usepackage{textcomp,tocloft,envirom,setspace,geometry,enumerate,enumitem,blindtext,
multicol,xcolor,fancyhdr,calligra,graphicx,wrapfig,pgfplots,mdframed,tabularx,lipsum,
comment,csquotes}
\usepackage{chemfig}
```

How to insert it?

```
\documentclass{article} % This style only has commands on \section
\input{hassium.tex} % Download and input it using its path
```

2 Title Page Setup

After inserting the package, you should define the title and author name as follows:

```
\begin{document}
  \def\htitle{Your Title} % replace ‘‘Your Title’’ with the title you want
  \def\hauthor{Your Name} % replace ‘‘Your Name’’ with the author name you want
  \hsetup % given the parameters, this should setup the title
\end{document}
```

You can setup the table of contents by the code:

```
\begin{document}
  \htoc
\end{document}
```

This will automatically generates a table of contents when you add a section to the document.

3 Mainmatter of the Document

Every page in the mainmatter has a header, which contains author name, title, and page number. Use the following code to setup:

```
\begin{document}
  \hmain
\end{document}
```

4 An Example: This Demo

This demo offers an easy example of how to use the style. Here is my code for this demo:

```
\documentclass[10pt]{article} % The font size does not matter
\input{hassium.tex}
\begin{document}
  \def\htitle{Demo of Hassium Style}
  \def\hauthor{Hassium}
  \hsetup\
  \htoc\
  \hmain\
\end{document}
```

5 Setup in Geometry

There are some commands that adjust the geometry of the document:

```
\geometry{letterpaper, margin=0.75in}
\setstretch{1.25} % spacing
\setlength{\headheight}{13pt}
```

6 More on Table of Contents

You can add descriptions to each section and the description will appear in the table of contents, directly below the section name:

```
\section{This is a Sample Section}
\descr{This is a description to the section}
```

The table of contents only shows the section names, but no subsections and numberless sections. If you want a numberless section in the table of contents, use the “newsection” command:

```
\newsection{This is a numberless section}
```

Note that the section names in the table of contents are hyperlinks; click on any section name to navigate directly to that section. You can do the converse to navigate to the first page as well.

7 Darkmode

Darkmode command changes the background color to black and the text to white. The normal mode is used to end the darkmode. Use the commands by:

```
\begin{document}  
  \darkmode  
  \normalmode  
\end{document}
```

8 Other Environments and Commands

The line-spacing in “enumerate” environment is changed:

```
\setlist[enumerate]{topsep=0pt,itemsep=-1ex,partopsep=1ex,parsep=1ex}
```

The “level” environment is used in “enumerate” environment, consider the following code:

```
\begin{enumerate}  
  \item This is the first line.  
  \begin{level}  
    \item This is the second line.  
    \begin{level}  
      \item This is the third line.  
    \end{level}  
  \end{level}  
  \item This is another line.  
\end{level}  
\end{enumerate}
```

This code gives:

1. This is the first line.
2. This is the second line.
3. This is the third line.
4. This is another line.

The command “circled” draws a small circle and you can add something inside the circle:

```
\circled{1}
```

The output is ①. You can write any roman numerals by:

```
\rom2024 % replace 2024 by any number you want
```

There are two simple commands for hand-written fonts:

```
\cfd{font 1}  
\cfc{font 2}
```

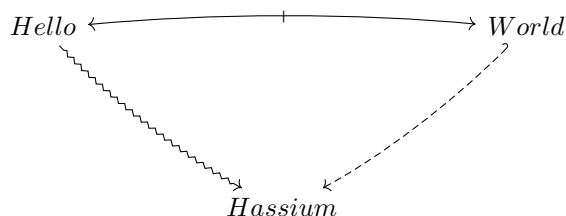
The outputs are *font 1* and *font 2*.

9 Quiver

Quiver is done by varkor and AndréC, check their github for more information. I include quiver to draw curve arrows in a commutative diagram. To draw a diagram with quiver, check this website. An example is given below:

```
% chktex-file 15 % the three lines enables useless warnings
% chktex-file 17
% chktex-file 18
\begin{center}
  \begin{tikzcd}
    Hello & \&\&\& World \\
    & \& Hassium \\
    \arrow["\shortmid"{marking}, curve={height=-6pt}, tail reversed, from=1-1, to=1-5]
    \arrow[curve={height=6pt}, squiggly, from=1-1, to=4-3]
    \arrow[curve={height=-6pt}, dashed, hook', from=1-5, to=4-3]
  \end{tikzcd}
\end{center}
```

The diagram looks like:



10 Theorem Styles

11 Invisible Proofs

The environment “reviewmode” is originally done by my friend ETwilight. It replaces your “proof” environment by three empty lines:

```
\begin{reviewmode}
  \begin{proof}
    The proof is trivial.
  \end{proof}
\end{reviewmode}
```

12 Simple Commands in Math Mode

I will give a table of all commands in math mode.