

LaTeX (LAH-tekh) Tutorial

Kat R

March 9, 2020

Contents

1	Examples of LaTeX coding for future use	1
1.1	To keep hierarchy	1
1.1.1	Paragraph writing	1
1.2	<i>Not indented</i>	1
2	Highlighting and footnotes	1
3	Equations	1
3.1	As part of text	1
3.2	In the middle, not numbered	1
3.2.1	And in the middle, numbered	2
4	Adding images	2
4.1	Lonely image	2
4.1.1	Images side by side	2
5	Citing and referencing	3
5.1	Referencing figures and equations	3
5.2	Citing a paper	3
6	Tables	3
7	Listing things	3
7.1	Un-ordered list	3
7.2	Ordered and nested lists	3
8	Example of symbol in section heading below	3
8.1	Lyman- α	3
9	Columns	4
9.1	Two Columns	4
9.1.1	A picture in a multi-column environment	4
9.2	Three Columns	4

1 Examples of LaTeX coding for future use

1.1 To keep hierarchy

1.1.1 Paragraph writing

This is a paragraph Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

And this is a subparagraph Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

1.2 Not indented

Starts as left as possible Not indented Not indented Not indented

2 Highlighting and footnotes

You can make words **bold**, *italicise* them, underline words or **make them stand out regardless of the surrounding**. You can break a line mid sentence and make footnotes like this ¹.

3 Equations

3.1 As part of text

In total 85 distinct galaxies were identified in the Hubble Deep Field image provided, the list of which can be found in Appendix B at the end of this report. Poisson statistics states that the error in the number of galaxies counted (N_x) is simply the root of the count ($\sqrt{N_x}$), this can be represented as a percentage by the following equation, $N_x^2 + N^2$.

3.2 In the middle, not numbered

$$\alpha\beta \frac{2G}{x^2 B_n}$$

$$\frac{b \sqrt{\frac{b^2 - 4ac}{4ac}}}{2a} + \sin x$$

$$\text{mag} = 5 - \log_{10} \left(\frac{D_l}{10} \right) + M_{\text{corr}}$$

¹a footnote

3.2.1 And in the middle, numbered

$$A = bx + 24 \quad F_x \quad (1)$$

4 Adding images

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there.

4.1 Lonely image



Figure 1: A visualisation of a frog.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

4.1.1 Images side by side



Figure 2: first figure

Figure 3: second figure

5 Citing and referencing

5.1 Referencing figures and equations

Expression $4 - 3 = G - x$ naturally follows from Eq 1, and both of these things have a lot to do with Fig 4.

5.2 Citing a paper

This statement has a citation at the end of it [Koefoed-Johnses and Ussing \[1958\]](#), and this one has two [Koefoed-Johnses and Ussing \[1958\]](#), [Tuttle et al. \[1982\]](#). A citation with parenthesis is sure to follow [\[Siddiqi et al., 2004\]](#).

6 Tables

Case	Ar	H	He
1	50	837	970
2	47	877	230
3	31	25	415
4	35	144	2356
5	45	300	556

Table 1: Imaginary experiment results.

7 Listing things

7.1 Un-ordered list

One

Two

Three

7.2 Ordered and nested lists

1. One

(a) Two

(b) Three

(c) Four

2. Five

3. Six

8 Example of symbol in section heading below

8.1 Lyman- α

Example of an unnumbered section

It won't appear in the table of contents

9 Columns

9.1 Two Columns

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat

ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

9.1.1 A picture in a multi-column environment

Figure 4: A serious frog.

9.2 Three Columns

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ul-

tricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

References

- V. Koefoed-Johnses and H. H. Ussing. The nature of the frog skin potential. *Acta physiologica Scandinavica*, 42(3-4):298–308, 1958.
- A. Siddiqi, T. W. Cronin, E. R. Loew, M. Vorobyev, and K. Summers. Interspecific and intraspecific views of color signals in the strawberry poison frog *dendrobates pumilio*. *Journal of Experimental Biology*, 207(14):2471–2485, 2004.
- M. D. Tuttle, L. K. Taft, and M. J. Ryan. Evasive behaviour of a frog in response to bat predation. *Animal Behaviour*, 30(2):393–397, 1982.