Lab Book

project title

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2023

Contents

Chapter 1

March 2023

1.1 13 - Work organization

In bioinformatics and computational biology it is extremely important to organize your files, scripts, reports, among others. In table 1.1, I mention the most important aspects that should be addressed in your organization and helpful tools.

In summary, you need an adequate tool for each aspect, say latex or word for project documentation, and a backup and/or version control tool, say GIT or a cloud option for project documentation.

Table 1.1: Aspects of organization and respective tools.

Aspect	Tools and backup
Project documentation	Latex & GIT; word & cloud; google docs
Scripts	GIT; cloud
Papers, reports and presentations	Latex & GIT; word & cloud; google docs
Bibliography	Latex; Citavi, etc.

1.1.1 Learning Latex

- Working folder: *path*
- Source: `https://github.com/waltercostamb/Lab-Book`

LaTeX is a high-quality typesetting system, available as free software, which allows to produce scientific or technical documents [ProjectLaTex, 2017]. I am using LaTeX to create a Bioinformatics Lab Book. To compile my Lab Book, I can use command lines (pdflatex and bibtex). Afterwards I can visualise the produced *.pdf* file with evince or another reader. Alternatevily, I can use a Latex editor, such as TexWorks (`https://www.tug.org/texworks/`), which allows me to write the code and control the *pdf* file in the same environment (Figure 1.1).

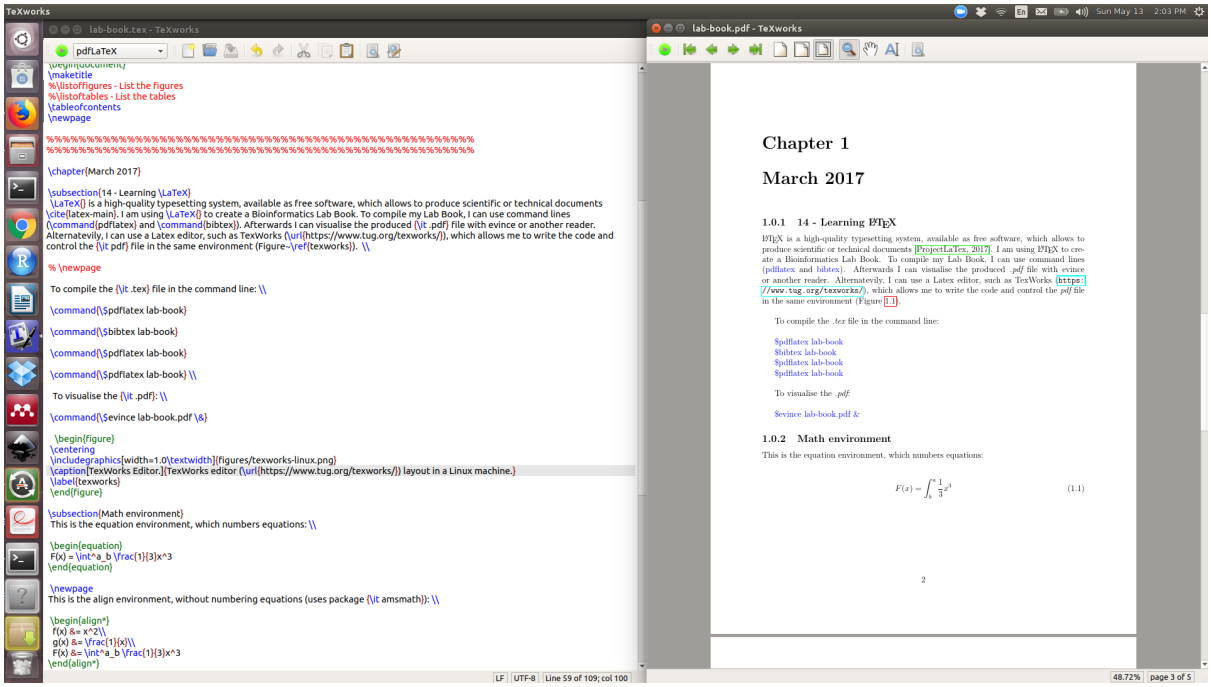

Figure 1.1: TexWorks editor (`https://www.tug.org/texworks/`) layout in a Linux machine.

To compile the *.tex* file in the command line:

```
$pdflatex lab-book
$bibtex lab-book
$pdflatex lab-book
$pdflatex lab-book
```

To visualise the *.pdf*:

```
$evince lab-book.pdf &
```

Math environment

This is the equation environment, which numbers equations:

$$F(x) = \int_b^a \frac{1}{3}x^3 \tag{1.1}$$

This is the align environment, without numbering equations (uses package *amsmath*):

$$f(x) = x^2$$
$$g(x) = \frac{1}{x}$$
$$F(x) = \int_b^a \frac{1}{3}x^3$$

1.2 14 - Project proposal

Some text here. Incluing and referencing a table (table 1.2).

- First numbered list item
- Second numbered list item

Table 1.2: Descriptio of table 1.

species	changes	score
Macaque	4	0.0
Human	2	14.9
Orangutan	0	0.0
Pan	0	0.0
Gorilla	0	0.0

Bibliography

[ProjectLaTex, 2017] ProjectLaTex (accessed in 09/03/2017). Latex, a document preparation system. *https://www.latex-project.org/*.