Inkscape with LaTeX

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Inkscape is a free and quite powerful tool to draw figures. More importantly, one can annotate figures with LaTeX by adding a suitable extension. This document is to instruct you how to install Inkscape and an associated LaTeX extension called `WriteTeX`. Many people use Inkscape, so technical issues and solutions are discussed online.

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Installation on Windows

1) Download and install Inkscape at `https://inkscape.org/release`

2) Download also an extension called `WriteTeX` in order to type latex. Here is how to do it:

2.1) Go to `https://github.com/wanglongqi/WriteTeX`

2.2) Choose folder with the right version of Inkscape recently installed (0.9x or 1.x.x)

2.3) Click on the green button Clone and Download. Then choose Download Zip file.

2.4) Unzip the file. Then copy two files `WriteTeX.inx` and `WriteTeX.py` and paste to the Extension folder of Inkscape. This folder is located by opening Inkscape, then go to `Edit -> Preferences -> System`. The path to the Extension folder is the path in the `Inkscape Extension`.

2.5) Create a tex file with only the following lines:

```
\usepackage{amsmath,amsthm,amssymb,amsfonts}
\usepackage{color}
```

and name it "`default_packages.tex`"

2.6) Save this file in the Extension folder of Inkscape.

3) Download pdf2svg at `https://github.com/jalios/pdf2svg-windows`

3.1) Unzip the file. Then copy the folder "`dist-64bits`" to a safe place, for example in the folder `C:\Users\pntua` (Note that “pntua” should be replaced by your username on your computer. You will see it in the folder C:\Users)

3.2) Open the `Start` menu and start typing `Edit the system environment variables`. Select this option when it becomes visible.

3.3) Click the `Environment Variables` button near the bottom of the dialog.

3.4) In the bottom part of the dialog labeled System environment variables, look for a variable named `Path`.

3.5) Then click on `Edit`.

3.6) Add one line at the end: "`C:\Users\pntua\dist-64bits`". (Note that "pntua" should be replaced by your username on your computer.)

4) Open Inkscape. Then go to `Extensions`. Then click on `WriteTeX`.

5) On the field called Preamble file, type "`default_packages.tex`"

6) On the field called Latex command used to Compile, type "`pdflatex`"

7) Now do the first experiment: type `$a<b$` in the field LateX source.

8) To specify default properties at opening, edit and save the file `default.svg` which has the layout that you like to start with (such as this one[*]), in

`C:\Program Files\Inkscape\share\templates`

Installation on macOS

1. Download and install Inkscape:

   https://inkscape.org/release/1.4.2/mac-os-x/

2. Download and Create needed Files:

   2.1 Download the WriteTeX extension to enable LaTeX in Inkscape:

   2.1.1 Go to: https://github.com/wanglongqi/WriteTeX

   2.1.2 Click the green Code button → Download ZIP

   2.1.3 Unzip the file. Copy the following two files:

   - `WriteTeX.inx`
   - `WriteTeX.py`

   2.1.4 Paste them into the Inkscape Extensions folder.

   To find it:

   - Go to Application. Right click `Inkscape`.

[*] If you see a blank webpage, just right click on any spot on the page and choose Save As.

- Then click `Show Package Contents → Contents → Resources → Share → inkscape → extensions`

2.2 Create a new `.tex` file named `default_packages.tex` with this content:

```
\usepackage{amsmath,amsthm,amssymb,amsfonts}
\usepackage{color}
```

2.3 Save this `.tex` file in the same Extensions folder as above.

3. Install Homebrew (macOS package manager)

3.1 Open Terminal

3.2 Paste this command:

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

3.3 After install, verify:

```
brew --version
```

You should see something like:

```
Homebrew 4.x.x
```

3.4 If `brew` doesn't work after installation, fix the PATH:

- Apple Silicon Macs:

```
echo 'eval "$(/opt/homebrew/bin/brew shellenv)"' >> ~/.zprofile
eval "$(/opt/homebrew/bin/brew shellenv)"
```

- Intel Macs:

```
echo 'eval "$(/usr/local/bin/brew shellenv)"' >> ~/.zprofile
eval "$(/usr/local/bin/brew shellenv)"
```

4. Install MacTeX (LaTeX compiler with `pdflatex`)

```
brew install --cask mactex
```

4.1 Add it to your PATH:

```
echo 'export PATH="/Library/TeX/texbin:$PATH"' >> ~/.zprofile
source ~/.zprofile
```

4.2 Verify:

```
pdflatex --version
```

5. Install `pdf2svg` (Inkscape uses it to convert PDF to SVG)

```
brew install pdf2svg
```

5.1 Verify:

```
pdf2svg --version
```

6. Create an Automator App (so you don't need to open Inkscape via Terminal)

6.1 Open Automator

6.2 Choose "New Document → Application"

6.3 Search for "Run Shell Script"

6.4 Drag it into the workflow

6.5 Paste the following code:

```
export
PATH="/Library/TeX/texbin:/opt/homebrew/bin:/usr/local/bin:
/usr/bin:/bin:/usr/sbin:/sbin" open
-a Inkscape
```

6.6 Save it as:

```
Inkscape with LaTeX.app
```

6.7 Add the app to your Dock or Desktop

6.8 You can choose a nice logo/icon for this Inkscape app such as this one.