A Sample Document With LabPal Data

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This is a simple LaTeX document showing how to include plots, macros and tables generated with LabPal inside your research paper. Our paper will use the data generated by the *Sorting Lab* example contained in LabPal's example folder.

Required Packages

Make sure your LaTeX file imports the following packages:

- `graphicx` and `pdfpages` to include figures
- `multirow` for tables
- `hyperref` for the hyperlink functionalities

Importing the Files

The first step is to run the experiments in the lab, and to export four files:

- The PDF files for all plots in the lab. Go to the *Plots* page and click on the "Download all plots" button. By default, the file is called `labpal-plots.pdf`.
- The macro file to easily import the plots. In the *Plots* page, click on the "Download LaTeX macros" button. By default, the file is called `labpal-plots.tex`.
- The LaTeX file for the tables. In the *Tables* page, click on the "Download all tables" button. By default, the file is called `labpal-tables.tex`.
- The LaTeX file for the macros. In the *Macros* page, click on the "Download all macros" button. By default, the file is called `labpal-macros.tex`.

Copy these files in the same folder as your research paper. At the top of the paper, make sure you include the two `.tex` files using the `input` command.

Adding a Table

To add a table to your text, create a `table` environment as usual. Use the command `\usebox{\boxname}` to include the contents of a table, where `boxname` is the name of one of the boxes defined in `labpal-tables.tex`. (In your lab, you can set the name given to each table's box through method `setNickname()`. Otherwise, LabPal assigns a default name to each table.)

Table 1 shows an example of a table included in such a way. Each cell in the table is a hyperlink. The destination of each link can be copy-pasted in LabPal's web console, in the *Find* page, which takes you to the table, plot or macro where this specific data point is defined.

Adding a Plot

Adding a plot can be done in the same way as a table; create a `figure` environment, and use the `\usebox{\boxname}` to include a specific image; `boxname` is the name of one of the boxes defined in `labpal-plots.tex`.

Figure 1 shows an example of a figure included in such a way. The figure is surrounded by a hyperlink. The destination of this link can be copy-pasted in

size	time	name
5000	0.613001	Shell Sort
	0.819734	Quick Sort
	31.731983	Gnome Sort
	57.07868	Bubble Sort
10000	1.560926	Quick Sort
	2.402894	Shell Sort
	117.29129	Gnome Sort
	201.5234	Bubble Sort
15000	2.844152	Quick Sort
	7.868555	Shell Sort
	266.1354	Gnome Sort
	505.67435	Bubble Sort
20000	4.176307	Quick Sort
	5.23617	Shell Sort
	470.69592	Gnome Sort
	899.84033	Bubble Sort
25000	4.215712	Quick Sort
	6.794177	Shell Sort
	793.6945	Gnome Sort
	1408.1387	Bubble Sort
30000	8.513943	Quick Sort
	13.747478	Shell Sort
	1050.8682	Gnome Sort
	2025.7166	Bubble Sort
35000	4.794233	Quick Sort
	9.04799	Shell Sort
	1424.379	Gnome Sort
	2736.4849	Bubble Sort
40000	6.609544	Quick Sort
	7.226375	Shell Sort
	1883.648	Gnome Sort
	3633.834	Bubble Sort
45000	4.827898	Quick Sort
	8.07502	Shell Sort
	2368.5808	Gnome Sort
	4570.3594	Bubble Sort
50000	5.266864	Quick Sort
	9.274715	Shell Sort
	2919.5515	Gnome Sort
	5669.2163	Bubble Sort
55000	6.047056	Quick Sort
	9.717643	Shell Sort
	3547.5903	Gnome Sort
	6847.2227	Bubble Sort
60000	6.550205	Quick Sort
	11.159963	Shell Sort
	4197.049	Gnome Sort
	8142.8438	Bubble Sort
65000	6.993936	Quick Sort
	12.06618	Shell Sort
	4957.2056	Gnome Sort
	9576.894	Bubble Sort
70000	9.978904	Quick Sort
	13.525684	Shell Sort

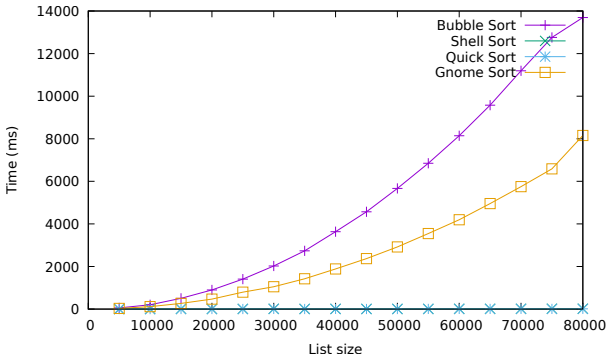

Figure 1: This plot is generated by LabPal. The hyperlink points to the same figure inside the lab instance.

LabPal's web console, in the *Find* page, which takes you to the plot and its associated data table.

Referring to Macros

Referring to macros is even easier. Simply call any of the commands defined in `labpal-macros.tex` wherever in the text. For example, we know that the slowest sorting algorithm is Bubble Sort, and that our lab has considered arrays of size up to 80000.