Introduction to Programming/ Week 7: LaTeX posters and Python functions/ Making a poster in LaTeX

Making a poster in LaTeX

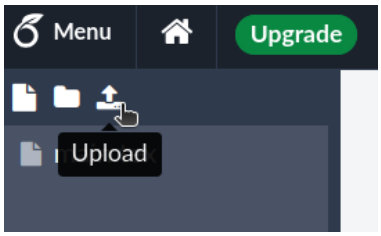
There are many ways to create posters in LaTeX. The focus in these notes is creating a basic, two-column, portrait, A3 poster.

Try to relax about the precise layout, your life will be much easier if you let LaTeX handle the look of your poster and focus instead on your content.

Basic setup

Open a new blank project on Overleaf.

Download the file shu-logo.png and upload this to your new Overleaf project using the upload



Now replace the LaTeX code with the code below. We will use the `documentclass` called `beamer`, which is used for presentation slides and posters. This code tells LaTeX you are making a poster and chooses some formatting options.

```
\documentclass[t]{beamer}
\mode<presentation>{\usetheme{Boadilla}}
\usepackage[orientation=portrait,size=a3,scale=1.6]{beamerposter}
\setbeamertemplate{navigation symbols}{}
\setbeamertemplate{caption}[numbered]
\setbeamercolor{page number in head/foot}{fg=date in head/foot.bg}
\usepackage{amsmath}
\usepackage{amssymb}
\logo{\includegraphics[height=2.5cm]{shu-logo}}

\title[]{\huge Poster title}
\author[]{\large Author Name1, Author Name2, Author Name3 and Author Name4}
\institute[]{\Large Sheffield Hallam University}
\date{}

\begin{document}
\begin{frame}

\begin{beamercolorbox}{}
    \maketitle
\end{beamercolorbox}
```

```
\begin{columns}[t]
    \begin{column}{.45\linewidth}
        % Column 1 here

    \end{column}

    \begin{column}{.45\linewidth}
        % Column 2 here

    \end{column}
\end{columns}

\end{frame}
\end{document}
```

This looks complicated, but you don't need to touch most of it. You should replace `Poster title` with the title of your poster, and each `Author Name` with the names of your authors. Then everything else you do should happen where it says `% Column 1 here` and `% Column 2 here`.

Adding content

All your content goes after `\begin{frame}` and before `\end{frame}`. The template above sets up a two-column structure. You should be able to find two comments in the LaTeX code - `% Column 1 here` and `% Column 2 here`.

Within each column, put your content inside `block`s. So for example, to add some text to column 1 put the following code below the comment `% Column 1 here`.

```
\begin{block}{Hello}
    Hello, world!
\end{block}
```

Maths

You can include maths in the content you are using on your poster in the usual way. For example, here is a block that includes some mathematical notation.

```
\begin{block}{Limits}
    For a variable \(x\), consider the limit
    \[ \lim_{x \to 2} \frac{x^2-4}{x^2-5x+6} \]
\end{block}
```

Inserting images

You can insert an image using `\includegraphics`. For example, to insert the SHU logo you uploaded to Overleaf earlier, use this code in a block on your poster:

```
\includegraphics[width=4cm]{shu-logo.png}
```

You can add new images, but you will need to upload your image to Overleaf as we did above with the SHU logo.

`width` can be a measure like `width=4cm`, but you can also refer to the width of the text at that point using `\textwidth`. For example, to make the image be 0.6 times the text width, use

```
\includegraphics[width=0.6\textwidth]{shu-logo.png}
```

There are ways to draw graphics in LaTeX, but this is quite complicated so it is probably best that you create images elsewhere and insert them using `\includegraphics`, at least for now.

Figures

It is usual in academic work to include images as a figure. A figure has a number and a caption, and should be referred to in the text.

In LaTeX we create a figure using the `figure` environment. What goes in the figure can be anything that creates an image, but likely you will use `\includegraphics` as described above.

```
\begin{figure}\centering
    \includegraphics[width=0.6\textwidth]{shu-logo.png}
    \caption{The Sheffield Hallam University logo}
    \label{shu-logo}
\end{figure}
```

If you add this code to a block on your poster, you should see the logo with "Figure 1" and your caption below.

We added an invisible `\label{shu-logo}` to the figure. We can use the text `shu-logo` to refer to the figure in the text. Wherever we put `\ref{shu-logo}`, LaTeX will put the number of the figure. This avoids us having to keep track of which figure has which number.

For example, add this text to a block in your poster.

```
The Sheffield Hallam University logo (see figure \ref{shu-logo}) is mostly pin
```

Tables

Tables are handled in a similar way to images. The `table` environment is the equivalent of `figure`, and will give the table a caption. The actual table is drawn using `tabular` in a way that was described earlier in the module.

For example, this code will add a table and a reference to it in the text.

```
\begin{block}{Tables}
    See table \ref{squares-etc}.

    \begin{table}
        \begin{tabular}{c|c|c}
            \(n\) & \(n^2\) & \(n^2+1\)\\\hline
            1 & 1 & 2\\
            2 & 4 & 5\\
            3 & 9 & 10\\
```

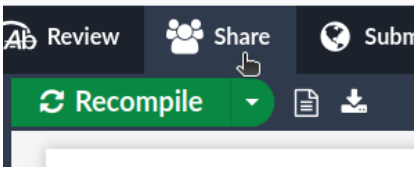
```
            4 & 16 & 17\\
            5 & 25 & 26\\
        \end{tabular}
        \caption{Some values of \(n\), \(n^2\) and \(n^2+1\).}
        \label{squares-etc}
    \end{table}
\end{block}
```

Designing your poster

You should now know enough to be able to make your poster. If you add too many blocks or too much content, this might overlap the logo at the bottom or even move off the bottom of the page. Your poster should be one page, so be careful to add the right amount of content to fill the page without overflowing.

Collaborating with others

Within Overleaf, you can share a document so multiple people can edit it. Choose 'Share' from the top of the page



Then enter people's email addresses in the 'Add people' box, clicking 'Invite' to invite them to edit your poster.