

# Giving a mathematics talk

## Part I: technical aspects

Franco Vivaldi

November 15, 2018

# Plan

Part I: technical aspects (*easy*)

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- BEAMER

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Part II: communicating mathematics (*difficult*)

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- tricks and common mistakes

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## Part II: communicating mathematics (*difficult*)

- tricks and common mistakes
- optimising information delivery
- stage techniques





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These slides are generated with [Beamer](#), which I now introduce.



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```
\documentclass[12pt]{beamer}
\begin{document}
\begin{frame}
one two
\end{frame}
\end{document}
```

BEAMER slides are produced with the `frame` environment.  
Here we have a single frame; the output is:

one two

The  $\text{\LaTeX}$  output may be delayed using the `\pause` command.

# Pauses

The  $\text{\LaTeX}$  output may be delayed using the `\pause` command.

```
\documentclass[12pt]{beamer}
\begin{document}
\begin{frame}
one \pause two

\pause three
\end{frame}
\end{document}
```

This document produces the following output:

one

onetwo

onetwo  
three



To insert a space between ‘one’ and ‘two’, we can either place the latter on a new line (in  $\text{\LaTeX}$  a line-break character is interpreted as a space):

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```
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```

# Frame content and title

Within a frame one may insert any  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  input, as well as BEAMER commands.

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```
\begin{frame}\frametitle{My title}
```

```
Main results:
```

```
\begin{enumerate}
```

```
\pause\item  $1+1=2$ 
```

```
\pause\item  $1-1=0$ 
```

```
\end{enumerate}
```

```
\pause
```

```
\begin{block}{Theorem}
```

```
Awesome fact:  $\text{\textcolor{blue}{red}}$  is
```

```
 $\text{\textcolor{red}{blue}}$ 
```

```
\end{block}
```

```
\end{frame}
```

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- 1  $1 + 1 = 2$



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①  $1 + 1 = 2$

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## Theorem

Awesome fact: red is blue

# Inserting images

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\begin{frame}\frametitle{My plot}  
\includegraphics[scale=0.4]{MyFig}  
\end{frame}
```

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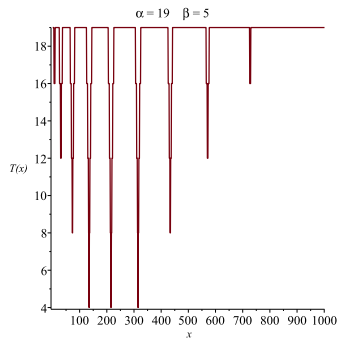
Suppose that the image file, called `MyFig.pdf`, resides in the current directory. To import such a file, we use the command

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```

```
\begin{frame}\frametitle{My plot}  
\includegraphics[scale=0.4]{MyFig}  
\end{frame}
```

The suffix `.pdf` is not included. This command accepts other graphic formats, such as `jpg`, `png`, etc. The `scale` parameter determines the size of the picture.

# My plot

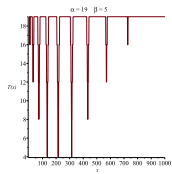
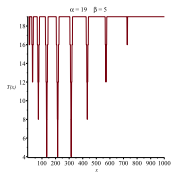




To centre an image, or to place two or more images side by side, use the `figure` environment, together with the `\centering` command, as follows.

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```
\begin{figure} [h]
\includegraphics [scale=0.2] {MyFig}
\includegraphics [scale=0.2] {MyFig}
\centering
\end{figure}
```



# Themes and title page

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BEAMER support a large number of **themes** and **colorthemes**, which determine the environment: layout, fonts, colours, etc. The title page of the present document was produced as follows:

```
\usetheme{Madrid}
\title{Giving a mathematics talk}
\subtitle{Part I: technical aspects}
\author[F Vivaldi]{Franco Vivaldi}
\begin{document}
\begin{frame}
\titlepage
\end{frame}
```

# Giving a mathematics talk

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To generate a printed copy of your presentation, you must modify the first statement in the preamble as follows:

```
\documentclass[handout]{beamer}
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\documentclass[handout]{beamer}
```

The option `handout` ignores all `\pause` commands, producing a pdf with as many pages as there are frame environments.

There is plenty of BEAMER documentation online, e.g.,

<https://www.sharelatex.com/learn/Beamer>