Beamer v3.0 with PSTricks

Ki-Joo Kim (a.k.a. Daisyweb)

November 4, 2004

Before Starting

- The main bottleneck from MS PowerPoint to LaTeX-based presentation tool is drawing graphics.
- Drawing objects can be done with PGF, PSTricks, or MetaPost.
- This PDF shows how PSTricks can be used with Beamer!
- However, this PDF does *not* tell you how to use Beamer nor PSTricks!

Why PSTricks

- Beamer loads PGF (portable graphics format).
  - PGF supports `dvips/dvipdfm/pdflatex`.[1]
  - But less powerful than PSTricks or MetaPost!

[1] But remember that Beamer does not support `dvipdfm`.

Why PSTricks

- Beamer loads PGF (portable graphics format).
  - PGF supports `dvips/dvipdfm/pdflatex`.[1]
  - But less powerful than PSTricks or MetaPost!
- PSTricks
  - The most powerful and easy-to-use graphics tool.
  - Seminar, (HA-)Prosper, and Beamer support it.
  - You can still use PGF with PSTricks.
  - But `dvips` should be used!

[1] But remember that Beamer does not support `dvipdfm`.

Beamer Options

- Pass two options, `xcolor=pst` and `dvips`, to Beamer.
- Load pstricks package.
- Example:

```
\documentclass[slidestop,xcolor=pst,dvips]{beamer}
\usepackage{beamerthemeepa}          % In-house theme
\usepackage{pstricks}                % PSTricks package
```

Compile

- Three steps are required:

```
> latex imsi.tex                % Two or more times
> dvips -Ppdf -G0 imsi.dvi      % -Poutline is also ok
> ps2pdf imsi.ps                % Or use distiller
```

- To get prepress quality PDF, type '`ps2pdf -dNOPAUSE -dPDFSETTINGS=/prepress imsi.ps imsi.pdf`'[2]

[2] If '=' is not working under Windows, use '#'.

Color Definition

- You can use color definitions in color, xcolor, and pstcol packages.

Color Definition

- You can use color definitions in color, xcolor, and pstcol packages.
- Examples of xcolor definition:
  - `\xdefinecolor{rgb}{lavender}{0.8,0.6,1}`
  - `\xdefinecolor{cmyk}{olive}{0.64,0,0.95,0.4}`
- Examples of pstcol definition:
  - `\newrgbcolor{lavendar}{0.8 0.6 1}`
  - `\newcmykcolor{olive}{0.64 0 0.95 0.4}`

Color Macros

- Predefined colors in pstcol:
  red, green, blue, cyan, magenta, yellow, black, darkgray, gray, lightgray, and white.
- Predefined colors in xcolor:
  Above + orange, violet, purple, brown.
- Of course, Beamer theme colors:
  `\alert{..}` and `\structure{..}`.

Color Macros

- Predefined colors in pstcol:
  red, green, blue, cyan, magenta, yellow, black, darkgray, gray, lightgray, and white.
- Predefined colors in xcolor:
  Above + orange, violet, purple, brown.
- Of course, Beamer theme colors:
  `\alert{..}` and `\structure{..}`.
- Color macros
  - `\textcolor{col}{text}`
  - `{\color{col} text}`
  - `{\col text}` (only for predefined colors in pstcol)

Package xcolor

- Package xcolor provides more flexibility!
- Color mixing is very easy!
- Example with PSTricks

`fillcolor`	meaning	example
red		
red!70!blue	70% red + 30% blue	
-red	remove red $\longrightarrow$ 30% blue	

Figures inside Columns

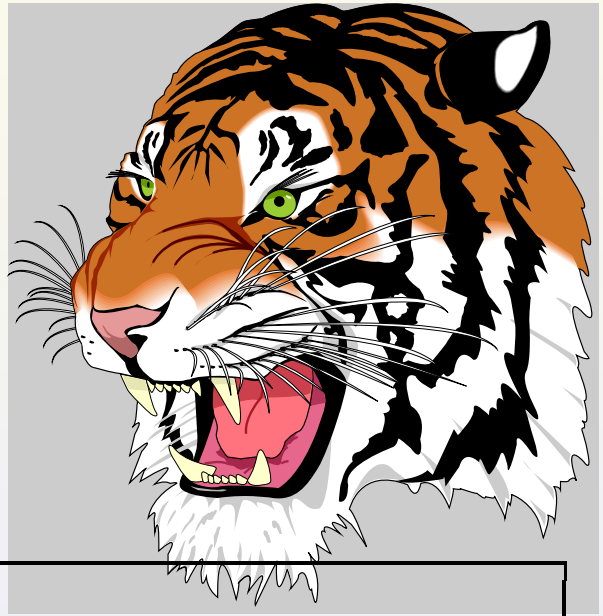
- Figures inside ‘columns’ environment need exact position.
- `\includegraphics` understands overlay command.

Figures inside Columns

- Figures inside 'columns' environment need exact position.
- `\includegraphics` understands overlay command.
- See the right figure

Figures inside Columns

- Figures inside 'columns' environment need exact position.
- `\includegraphics` understands overlay command.
- See the right figure
- Source code



```
\begin{columns}
 \begin{column}{0.65\textwidth}
  A\\B
 \end{column}
 \begin{column}{0.35\textwidth}
  \rput[lt](0,0){\includegraphics[clip=true,width=\textwidth]{tiger}}
 \end{column}
\end{columns}
```

Manual Overlays

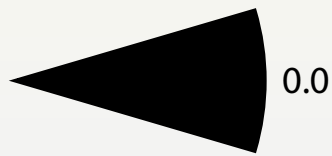
- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

Example:

Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

Example:



Manual Overlays

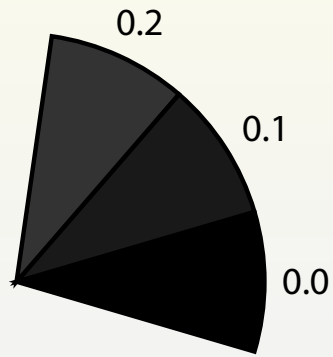
- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

Example:

Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

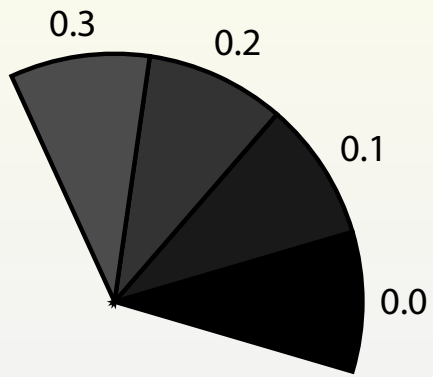
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

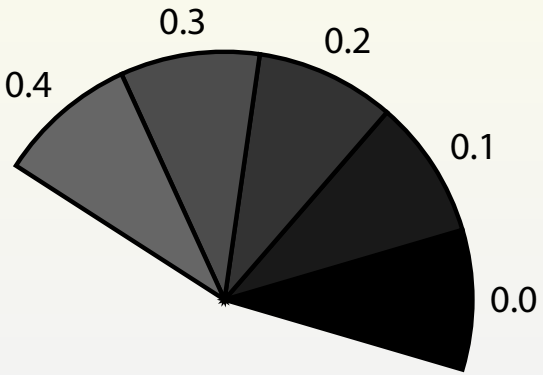
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

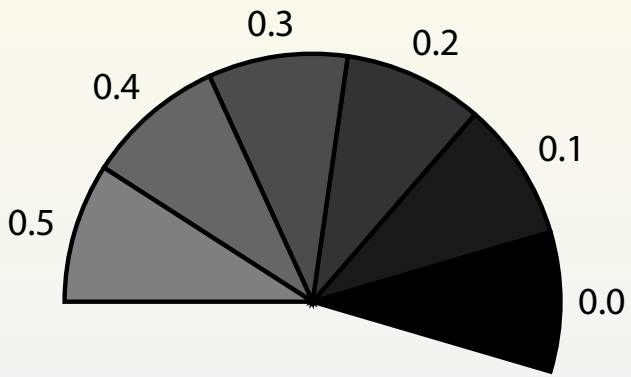
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

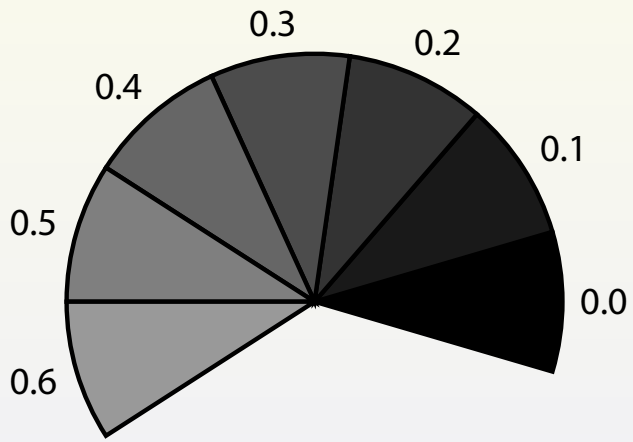
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

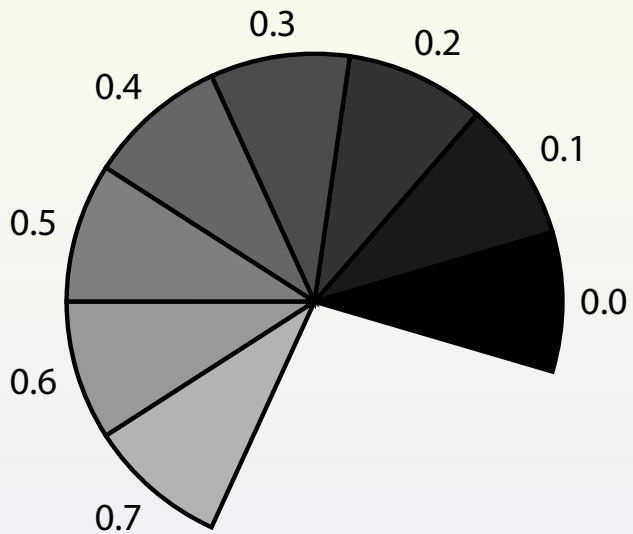
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

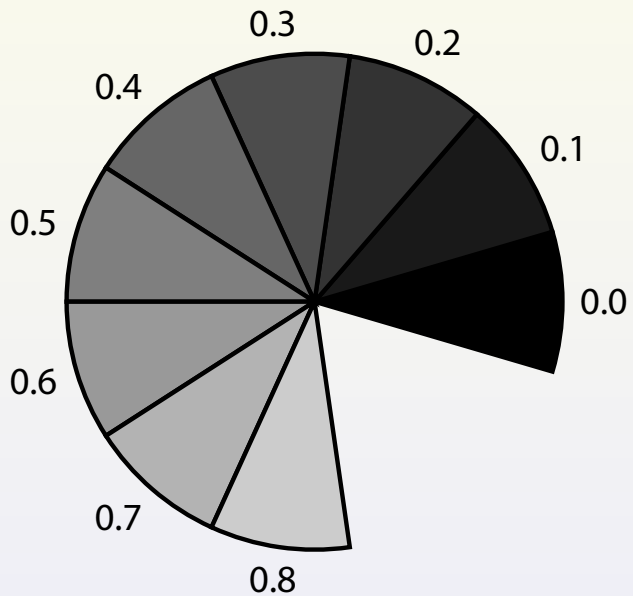
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

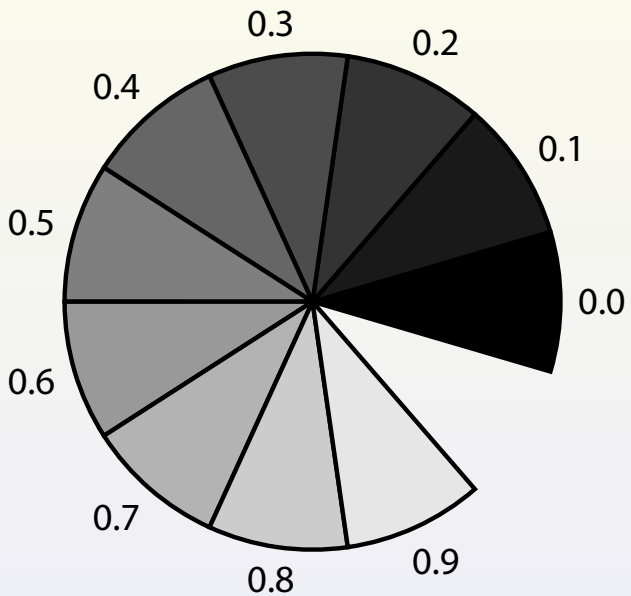
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

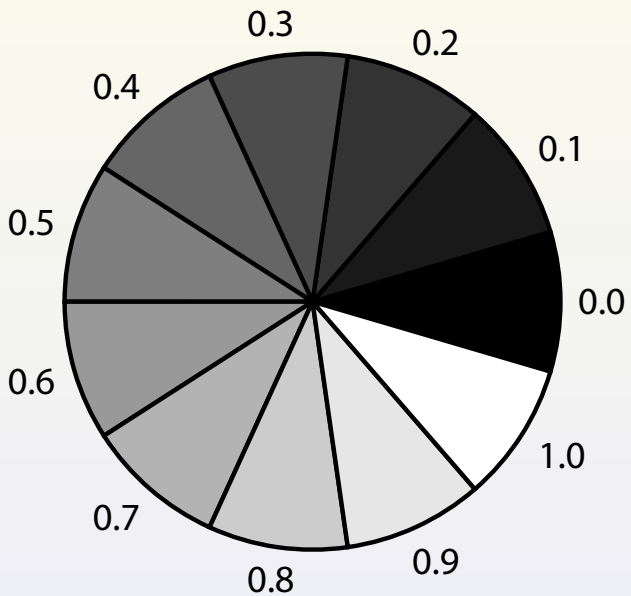
Example:



Manual Overlays

- PSTricks with Beamer overlays are possible.
- In the right example `\only<i->` is used inside the `multido` PSTricks macro.
- Ready to see?

Example:



Source Code – Overlays

```
\begin{pspicture}(-2.0,-2.0)(2.0,2.0)
  \newgray{mygray}{0}
  \SpecialCoor
  \degrees[1.1]
  \multido{\i=2+1,\n=0.0+0.1}{11}{%
     \only<\i->{%                                % i: overlay counter
        \newgray{mygray}{\n}                     % n: color counter
        \psset{fillstyle=solid,fillcolor=mygray}
        \rput{\n}{\pswedge{1.6}{-0.05}{0.05}}
        \uput{1.7}[\n](0,0){\scriptsize \n}%
     }%                                          % end of overlay
  }%                                             % end of multido
\end{pspicture}
```

Automatic Overlays

- Any overlays and transitions can be automated.
- Animation methods (known to me!).
  - Auto advancing (timed overlay) methods.
  - `\animate` macro.
- Animation depends on your imagination and LaTeX skill.
- Use with caution as animation consumes *lots* of slides.

Auto Advancing

- Two approaches are possible:
  - Hyperref package: `\hypersetup{pdfpageduration=n}` where *n* is duration time (sec).
  - Beamer option: `\transduration<i>{n}` where *i* is overlay counter.
    $\Rightarrow$ (`<i>` can be omitted for global setting).

Auto Advancing

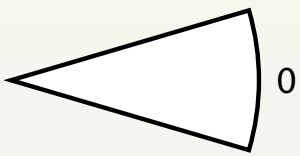
- Two approaches are possible:
  - Hyperref package: `\hypersetup{pdfpageduration=n}` where *n* is duration time (sec).
  - Beamer option: `\transduration<i>{n}` where *i* is overlay counter. ⇒ (`<i>` can be omitted for global setting).
- You need Adobe Reader setup if you use version 5.x.
  - Go to `Edit` → `Preferences` → `Full Screen`.
  - Select `Advance Every`, and set it to 60 in Windows or 1000 in Linux.

Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

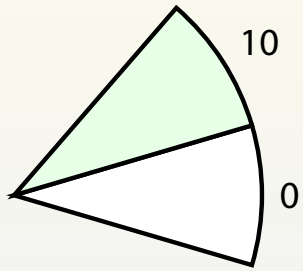
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

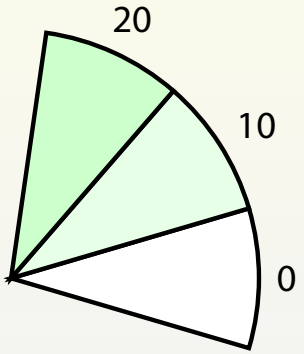


Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

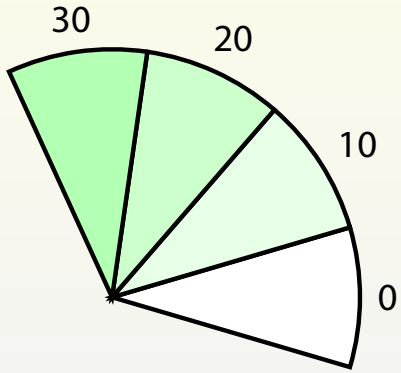


Auto Advancing: pdfpageduration



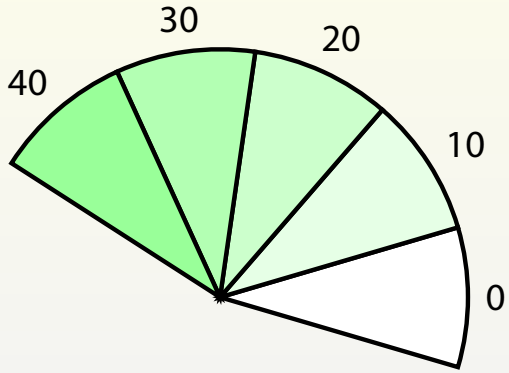
- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

Auto Advancing: pdfpageduration



- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

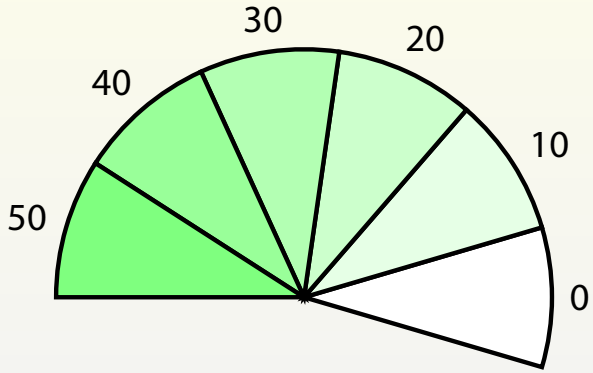
Auto Advancing: pdfpageduration



- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

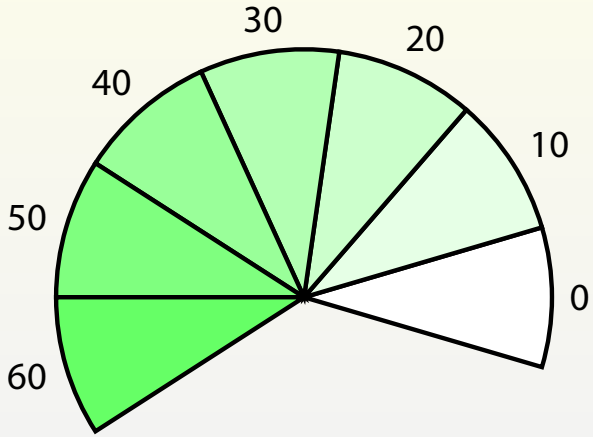
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!



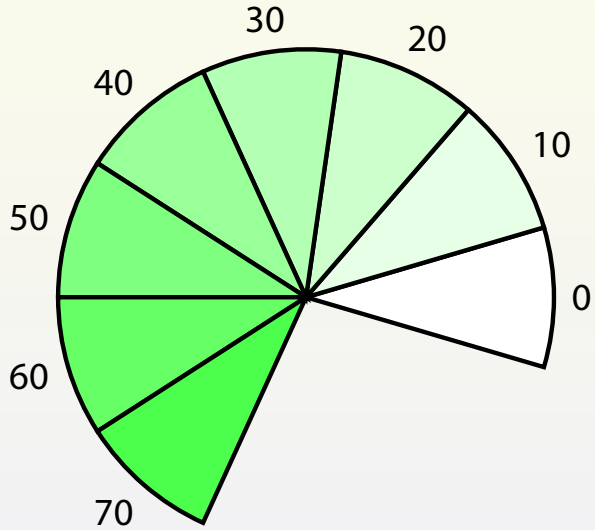
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!



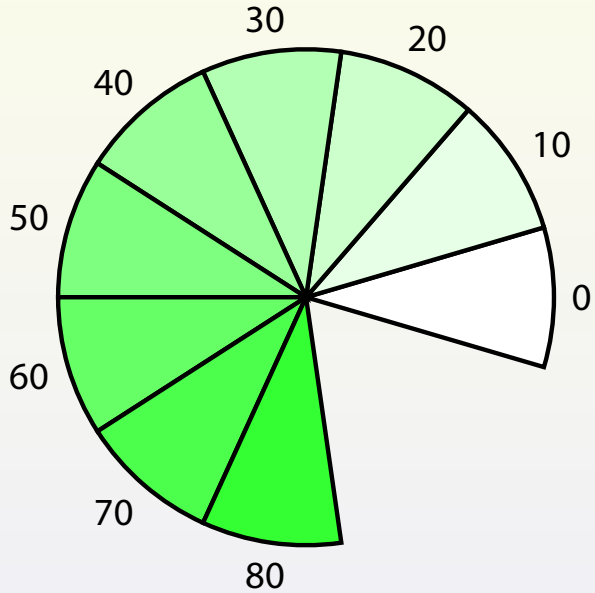
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!



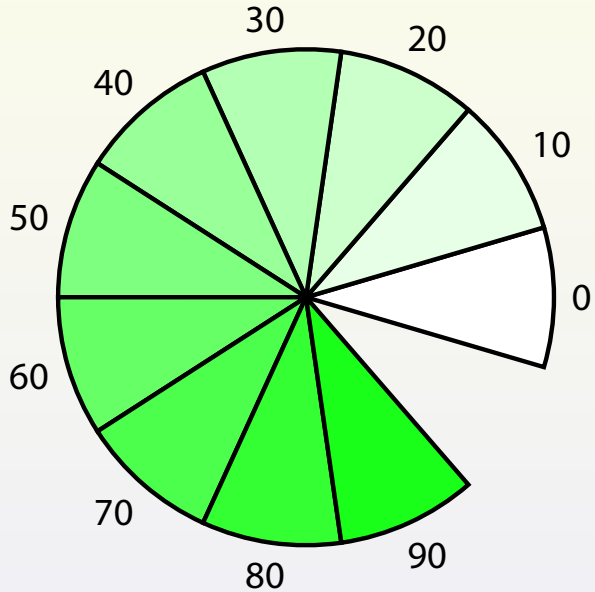
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!



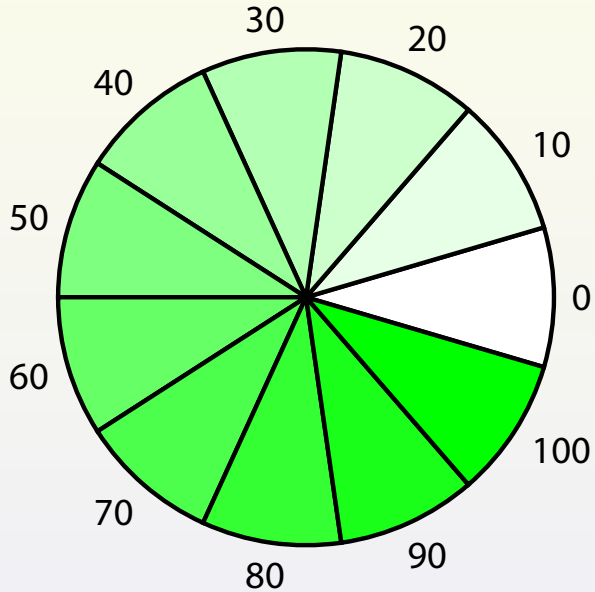
Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!



Auto Advancing: pdfpageduration

- Inside the current frame, add `\hypersetup{pdfpageduration=1}`.
- Inside the next frame, do not forget to set the value to some big value (=500).
- Two Problems:
  - Overlay is automatically started
  - Next slide is automatically opened!

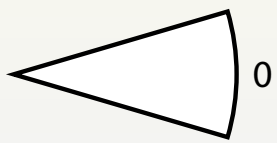


Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.

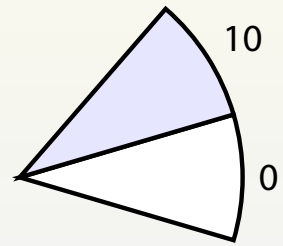
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



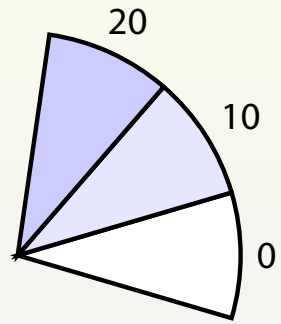
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



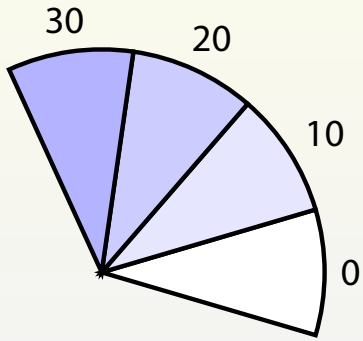
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



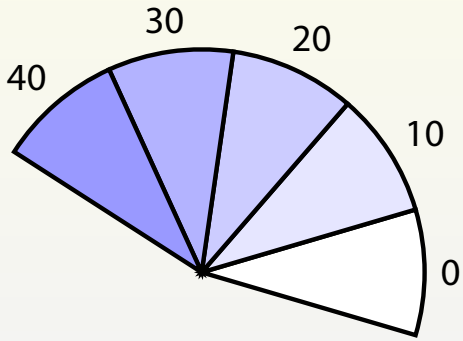
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



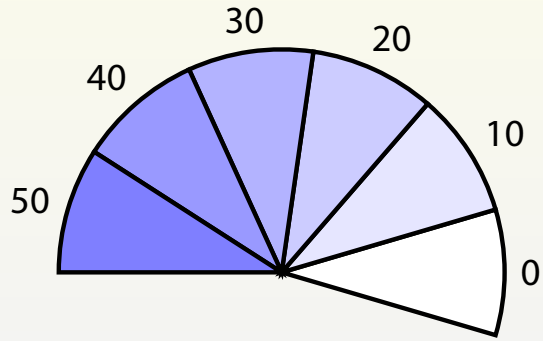
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



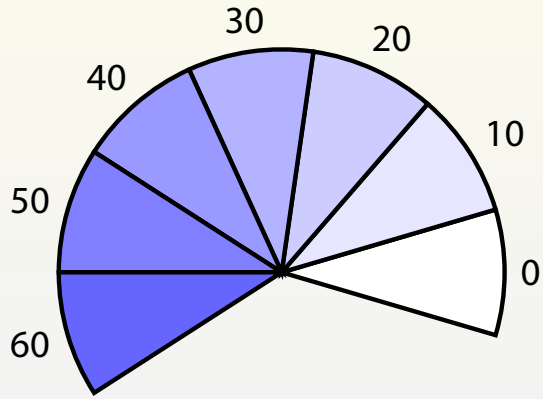
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



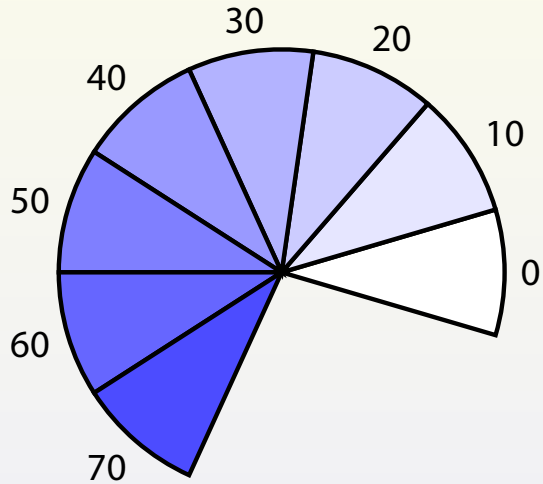
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



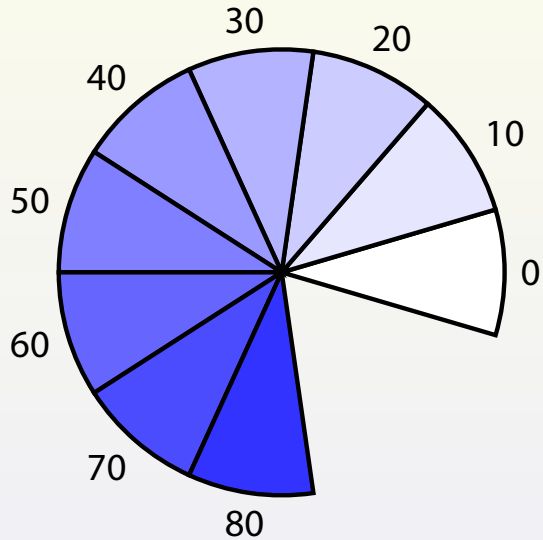
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



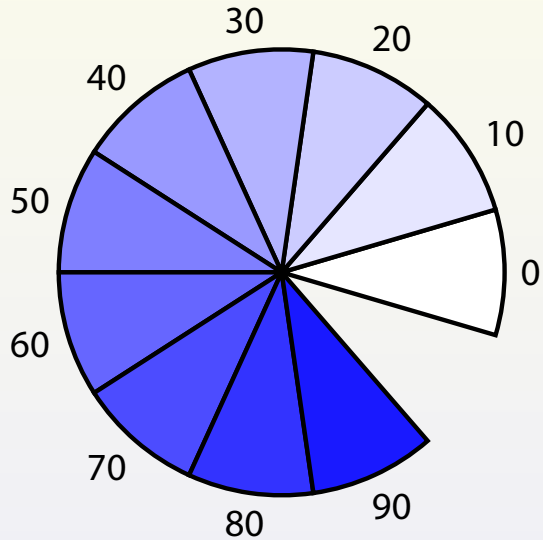
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



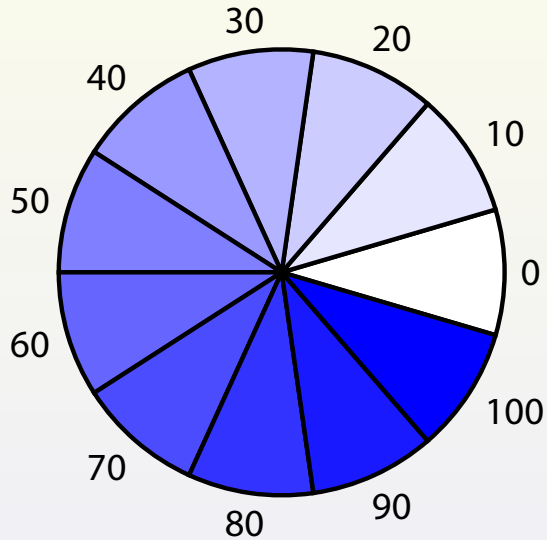
Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.



Auto Advancing: `transduration`

- Beamer transition macros for auto advancing.
- Applied options:
  - `\transduration<2->{0.5}` ⇒ Animate next slides at every 0.5 sec.
  - `\transglitter<6>[direction=315]` ⇒ Glitter at 315 degrees.
  - `\transduration<6>{2}`.
  - `\transduration<12>{500}` ⇒ Big number will not automatically open next slide.

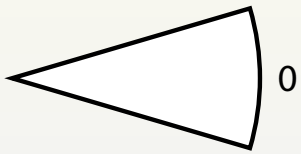


Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}

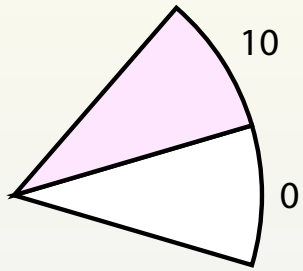
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



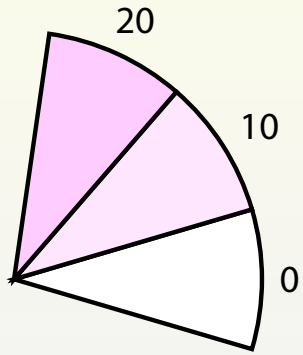
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



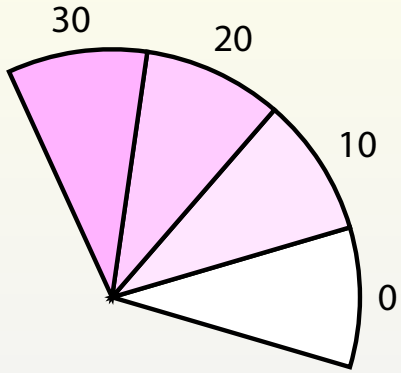
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



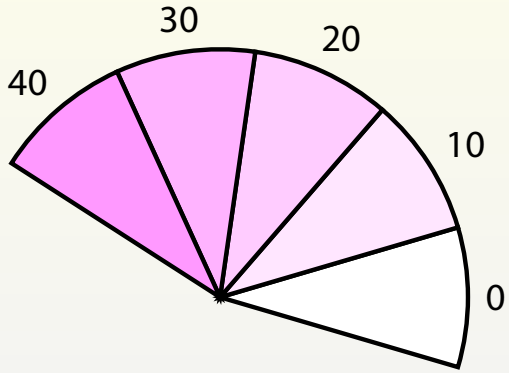
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



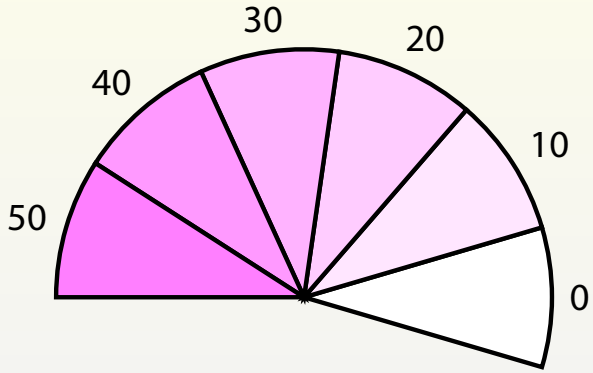
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



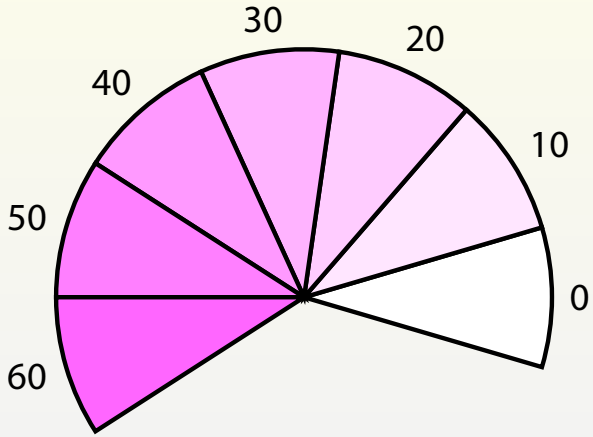
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



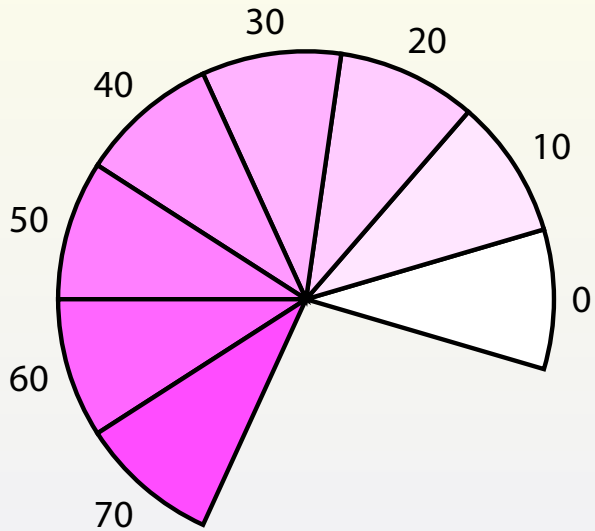
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



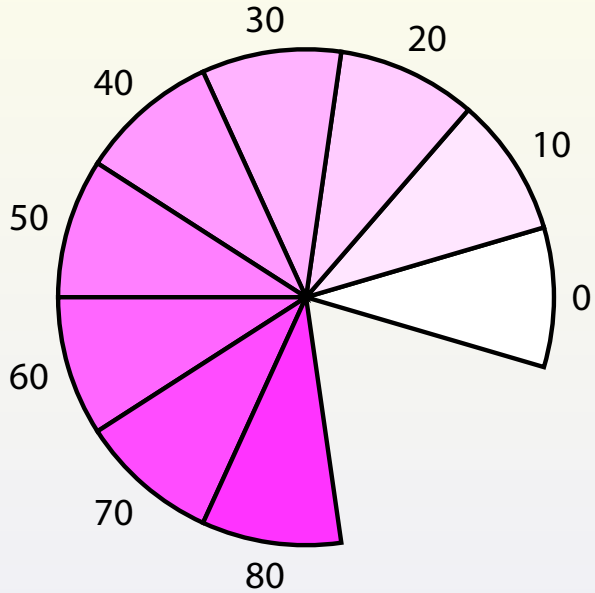
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



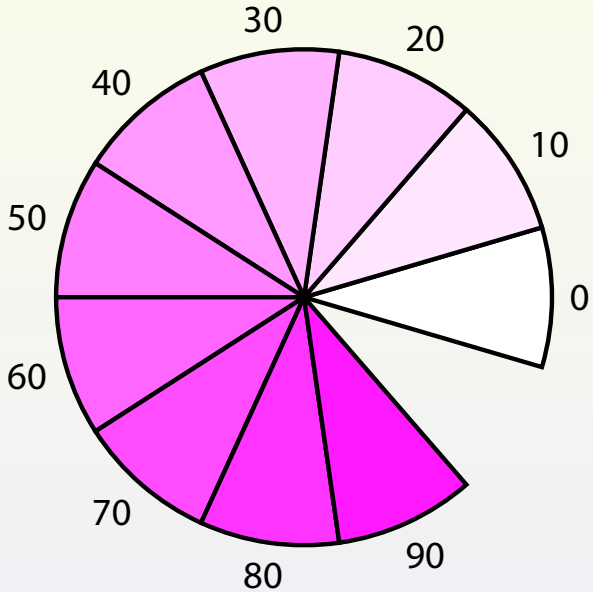
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



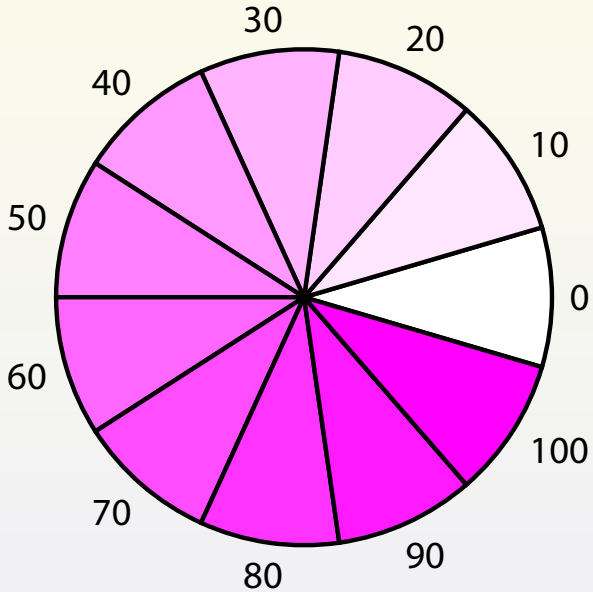
Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



Auto Advancing: animate

- \animate<> shows overlays as fast as it can. So you cannot go back!
- Beamer's transition effects can be applied.
- On the 6th overlay, the following effects are added.
  - \transglitter<6>[direction=315]
  - \transduration<6>{2}



Notes Option

- The [notes] option in earlier Beamer did not work with PSTricks. But now it also works with PSTricks.
- Example code:

```
\documentclass[notes]{beamer}          % notes option
\frame{\frametitle{Notes Options}      %
... slide contents ...
}%
\note{... Note contents ...}           % Notes outside \frame{...}
```

- Ready to see the note of this slide?

Notes Option

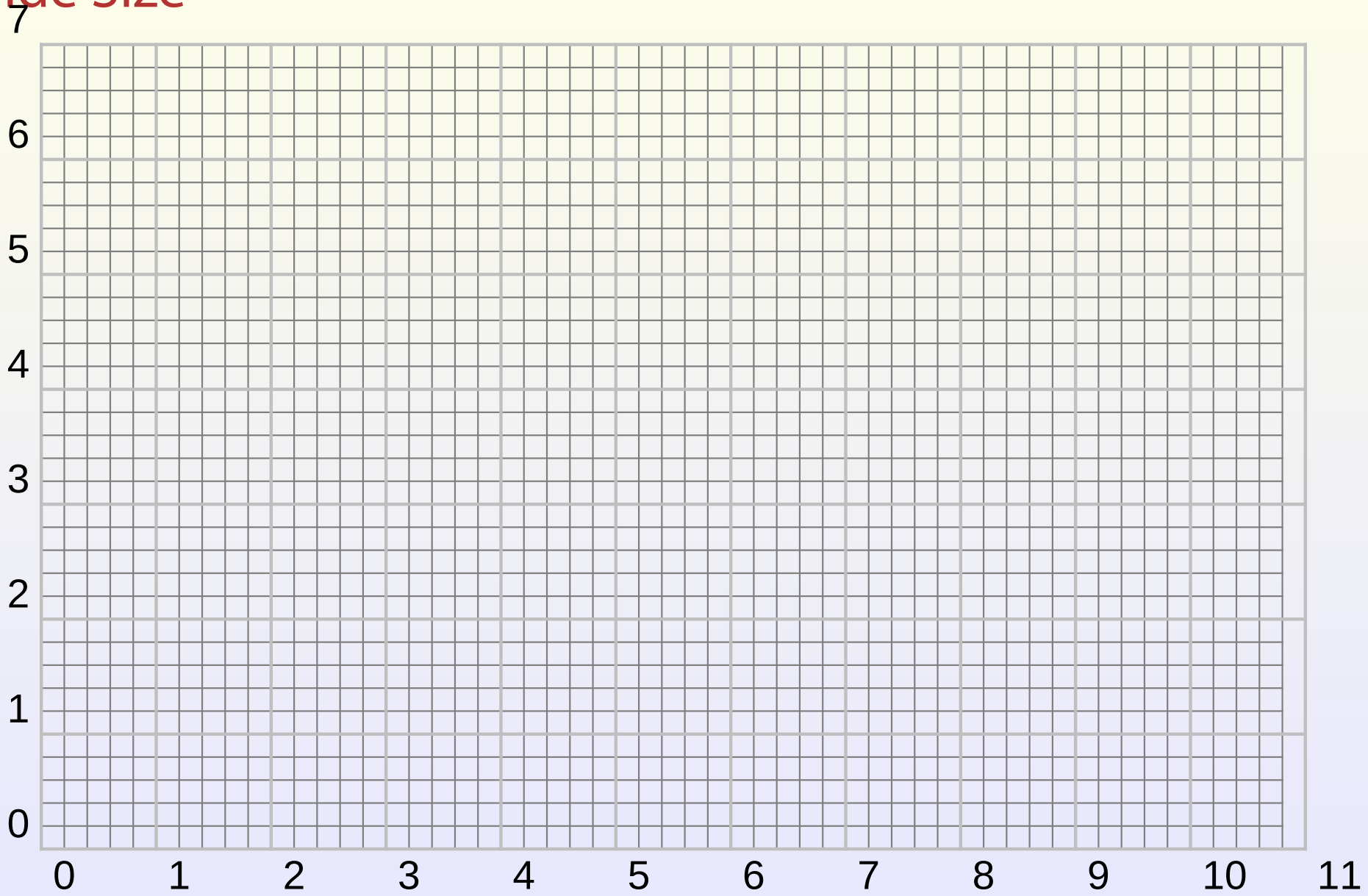
- The [notes] option in earlier Beamer did not work with PSTricks. But now it also works with PSTricks.
- Example code:

```
\documentclass[notes]{beamer}         % notes option
\frame{\frametitle{Notes Options}     %
... slide contents ...
}%
\note{... Note contents ...}          % Notes outside \frame{...}
```

- Ready to see the note of this slide?

Can you see me now? I am the note page of the previous slide.

Slide Size



Reference

Ki-Joo Kim, *Useful LaTeX Documents* (http://www.geocities.com/kijoo2000/).

Denis Girou, *PSTricks and relative Timothy van Zandt Packages except Seminar* (http://www.tug.org/applications/PSTricks/).

Herbert Voss, *Package pstricks* (http://www.pstricks.de/).