Latex Tikz Examples, Relative Position on Page and Alignment

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1 Relative Positioning

1.1 First line

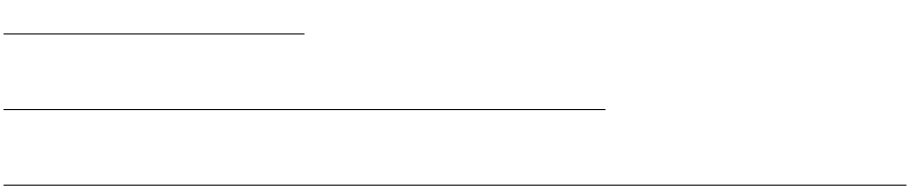
Using the code below, we draw from $x = 0$ and $y = 0$, to $x = 1$ and $y = 2$, the second point:

```
\draw (0,0) --(1,2);
```

1.2 Center Align Half Width Lines

For lines below, we draw several partial page lines and align to page center:

```
\begin{center}
\begin{tikzpicture}
\draw (0,2) -- (0.25*\textwidth,2);
\draw (0,1) -- (0.5*\textwidth,1);
\draw (0,0) -- (0.75*\textwidth,0);
\end{tikzpicture}
\end{center}
```



1.3 Big line that fills page within margin

Tikz coordinates are in cm. On A4 page, we have 21.0 cm width by 29.7 cm height. Each inch is 2.54 cm. So with 1.0 cm border on the left and on the right, we have $21 - 2.54 \cdot 2 = 15.92$, 15.92 cm. For lines below, we draw several full and partial page width lines:

```
\begin{center}
\begin{tikzpicture}
\draw (0,6) -- (7,6);
\draw (0,5) -- (15.92,5);
\draw (0,4) -- (0.45*\textwidth,4);
\draw (0,3) -- (0.5*\textwidth,3);
```

*https://fanwangecon.github.io, repository: Tex4Econ

```
\draw (0,2) -- (0.9*\textwidth,2);
\draw (0,1) -- (\textwidth,1);
\end{tikzpicture}
\end{center}
```

Note that we center the lines. Centering does not disrupt the coordinates, but just places entire tikz in the middle of page considering all plotted lines

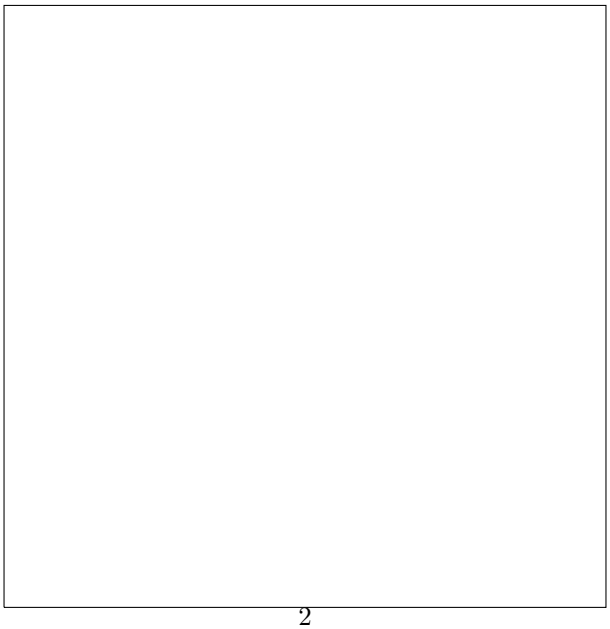
For additional, information, see A line of length textwidth in TikZ

1.4 Box in the Middle of Page

Now draw half width relative position box in the middle of pageFor lines below, we draw several full and partial page width lines:

```
\begin{center}
\begin{tikzpicture}
\draw (0,0) --
(0,0.5*\textwidth) --
(0.5*\textwidth, 0.5*\textwidth) --
(0.5*\textwidth, 0) -- (0, 0);
\end{tikzpicture}
\end{center}
```

Note that the box is centered.



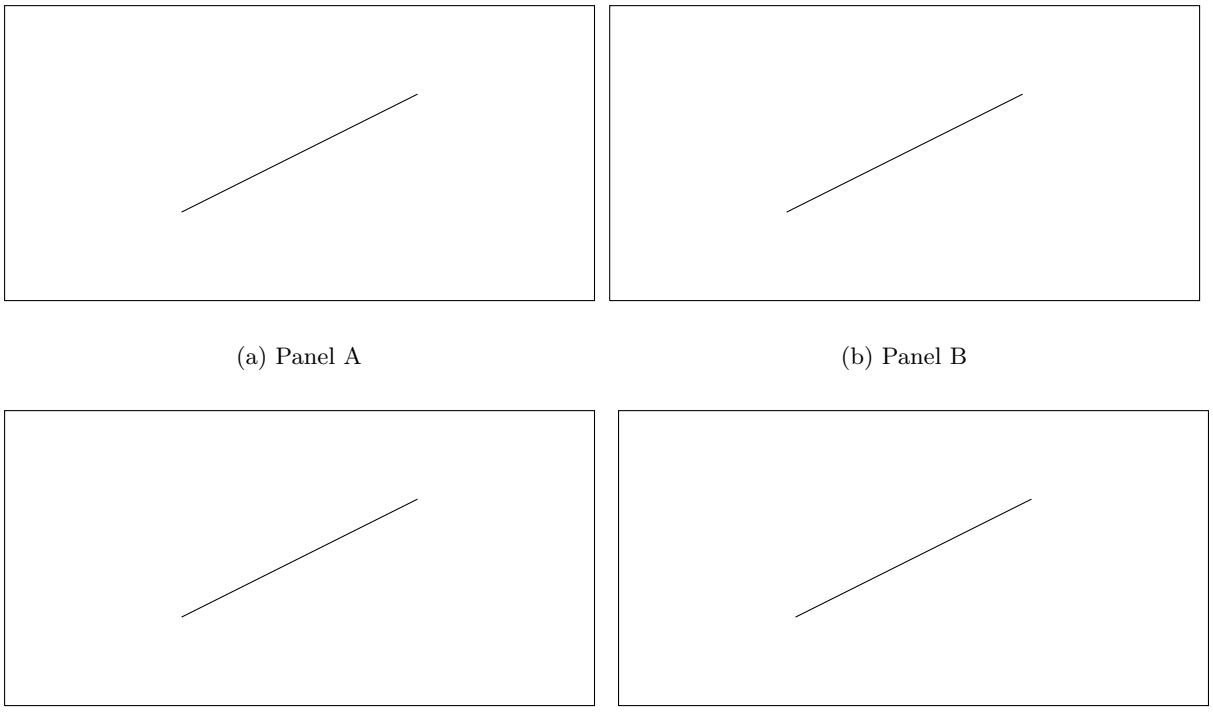
1.5 Four Boxes Same Page in Larger Box

There are four plots that I would like to draw together, four panels of tikz. We are defining height and width by textwidth, in this case textwidth is the width of each subfigure.

- tikz page panels subplots
- latex subfigure

```
\def\fhratio{0.50}
\def\fwratio{1.0}
\begin{subfigure}[b]{0.49\textwidth}
    \begin{center}
    \begin{tikzpicture}
    \draw (0,0) --
        (0,\fhratio*\textwidth) --
        (\fwratio*\textwidth, \fhratio*\textwidth) --
        (\fwratio*\textwidth, 0) -- (0, 0);
    \draw
        (0.3*\fwratio*\textwidth,0.3*\fhratio*\textwidth) --
        (0.7*\fwratio*\textwidth,0.7*\fhratio*\textwidth);
    \end{tikzpicture}
    \end{center}
    \caption{Panel A}
    \label{fig:panela}
\end{subfigure}
\end{figure}
```

Repeat this four timnes in a figure:



(a) Panel A

(b) Panel B

(c) Panel C

(d) Panel D

Figure 1: Figure with Four Subfigures Each Containing Tikz Figure