

October 26, 2021

## Handout: Rotating Symbols in LaTeX

Someone suggested in class that we could make the infinity symbol,  $\infty$ , in LaTeX by putting “8” on its side. I think that was indeed an old way to do it in typewriters. LaTeX has the command “`\infty`” which does it directly, but as I said in class, LaTeX has ways to do all kinds of things, and they’re easy to look up. So here is how I looked that up.

1. I googled “latex rotate symbol”.

2. I found a blog article at: <https://www.johndcook.com/blog/2020/11/18/rotating-symbols-in-latex/>.

3. In the article I found that with the “`\usepackage{graphicx}`” package (like with “`import matplotlib.pyplot as plt`” in Python) we can use the command “`\rotatebox[origin=c]{180}{8} + 50`”.

4. I changed the 180 to 90: “`\rotatebox[origin=c]{90}{8} + 50`”.

5. Alas, the simple LaTeX in Python doesn’t allow add-on packages such as `graphicx`. Instead, you need to run LaTeX a different way, e.g., with [https://www.tutorialspoint.com/online\\_latex\\_editor.php](https://www.tutorialspoint.com/online_latex_editor.php). There, you use these commands:

```
\documentclass{article}
\usepackage{graphicx}
\begin{document}
x = \rotatebox[origin=c]{90}{8} + 50
\end{document}
```

If you do that, the computer prints out on the screen:  $x = \infty + 50$

I just told you on the previous page that the commands:

```
\documentclass{article}
\usepackage{graphicx}
\begin{document}
x = \rotatebox[origin=c]{90}{8} + 50
\end{document}
```

would yield:  $x = \infty + 50$

If you used math mode, with  $\$$  on each side, so it looked like  $\$ x = \rotatebox[origin=c]{90}{8} + 50\$$ , you'd get:  $x = \infty + 50$

Using  $\$ x = \infty + 50\$$ , you'd get:  $x = \infty + 50$

6. I tried some other examples.

Here is an “a” and a checkmark rotated 90 degrees (sideways), with a regular checkmark first for comparison: ✓ a ↘ a

Here is a checkmark rotated 180 degrees, so it is upside down: ✓ a ↗ a

Here is a checkmark rotated 45 degrees, so it is slanted: ✓ a ↘ a

Here is a checkmark rotated 20 degrees, so it is slanted less: ✓ a ✓ a

You can rotate more than one symbol at a time, too: ✓ *anteater*

↙ *anteater*