

## 1 Review 3

Instructions: Create a pdf file containing at least **five** latex style files or commands not used in your Project 9. Your file should contain complete instructions on how to implement the styles. Submit your pdf file to teprice@uakron.edu. The name of your file should be of the form yourlastnameR03.pdf.

## 2 Using the Subfigure Package

In order to use the subfigure package, you must first make sure that the package is installed in SWP. In order to do this, you first go to *Typeset*, then to *Options and Packages*, and then to the *Package Options* tab. If the package *subfigures* is in use, it will appear in the *Packages in Use* dialog box. If it does not appear in the list, simply add the package by clicking on *Add...*, and then select *subfigure* and push enter.

Once you have enabled the subfigure package, you need to use latex code in order to make it work. You must remember to have a begin subfigure command, as well as an end subfigure command. Any number of figures can appear within the subfigure environment. It is also important to remember that the figures must appear in *In Line* mode, or the document will not properly compile.

The code that I used to begin the subfigure is as follows:

```
\begin{figure}[h]
\begin{center}
\subfigure[Linear Graph.\label{lineargraph}]
```

The code that I used to generate the second subfigure is as follows:

```
\subfigure[Quadratic Graph\label{quadraticgraph}]
```

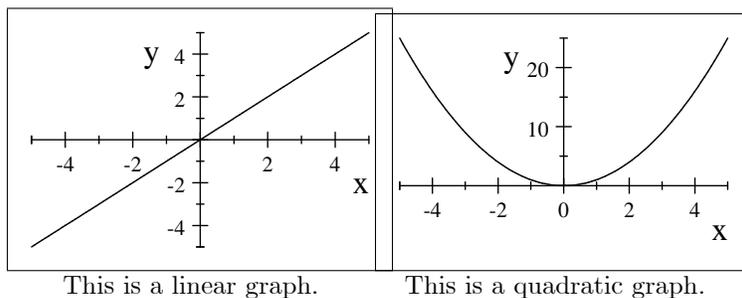
Finally, the code that I used to end the figure is as follows:

```
\caption{Two Graphs}
\label{twofigures}
\end{center}
\end{figure}
```

### 2.1

## 3 Using the WrapFigure Package

There are often situations in which we would like to have the text wrap around a figure. In order to do this, we must use the wrapfig command. Again, make sure that wrapfig is installed in Options and Packages. It is very important that you make your figures appear *In Line*. If they are either in Display or Float mode, the document will not compile properly.



This is a linear graph.

This is a quadratic graph.

(a) Linear Graph. `lineargraph` (b) Quadratic Graph `quadraticgraph`

Figure 1: Two Graphs

`twofigures`

The commands that we will use to generate the wrap figure are listed below. In order to begin the wrap figure, we use the following command:

$$\begin{code}\begin{wrapfigure}{r}{0in}$$

You must then type whatever figure that you would like to appear in between the text. In order to end the wrap figure, we will use the following command:

$$\end{code}\end{wrapfigure}$$

Notice that in the TeX field, we entered `{r}`. This means that we would like the figure to appear to the right side of the text. There are actually four different arguments that you can include in the TeX field. The general command looks like

$$\begin{code}\begin{wrapfigure}[w]{x}{y}{z}$$

Notice that the required commands are written with `{ }` and the optional commands are written with `[ ]`. The command `[w]` tells the number of vertical lines to be narrowed to accommodate the graphic or table that is entered. The command `{x}`, which is required, tells the placement of the figure. You can enter `r` to place it to the right of the text, `l` to place it to the left side of the text, `i` to place it on the inside edge, or `o` to place it on the outside edge. The optional command `[y]` tells the amount of overhang, which is the distance the graphic should extend into the margin. Finally, the required command `{z}` is the width of the graphic. If you specify a width of 0, as we have in this example, the actual size of the graphic is what will be used to determine the wrapping width.

You can also insert a caption for your graphic. In order to do so, enter the following tex code:

$$\begin{code}\caption{text}$$

This code must be inserted to the right of the graphic.

The following graph should be wrapped around the text that I am now writing. I will use the command `r`, so that the graph will be placed to the right of the text. The `wrap figure` package is a nice tool to use, because it enhances the appearance of the typeset document. It can make the document look more professional.

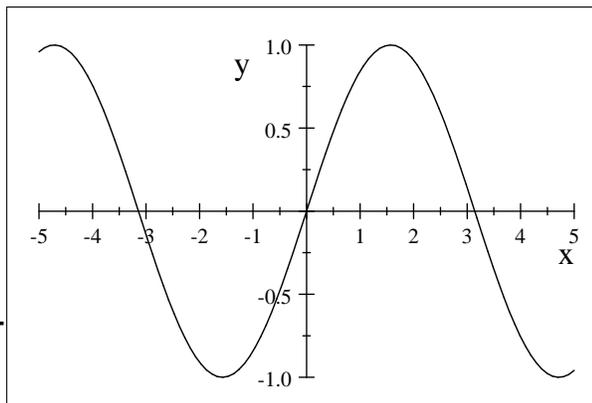


Figure 2: The graph of  $\sin x$

## 4 Using the Dropping Package

I really like the way the dropping package affects the final presentation of the typeset document. The Dropping package allows the first letter(s) of a word to be written bigger than the rest of the word. It is an effective tool to use when beginning a new section or a new paragraph. In order to use this package, first make sure that it is installed. In order to use this package, you must insert the following code into the Preamble:

```
\usepackage{dropping}
```

Then you must create a tex field. The general form of the text field looks like

```
\dropping[x]{y}{z}
```

The command `[x]` tells how far from the left margin the letter should start. Generally, just use `0pt` for this command, unless you want an indentation. The command `{y}` tells how many lines you would like the letter to drop. Obviously, the larger the number you choose for `y`, the larger your dropped letter will be. The command `{z}` tells the letter(s) that you would like to drop. The commands `y` and `z` are required.

**A**s an example, we will drop the first letter of this paragraph. The latex command that I used was

```
\dropping{3}{A}s
```

As you can see, the **A** has been dropped over the first three lines of text. Notice that the LaTeX command tells SWP which letter should be dropped. Thus it is redundant to actually type the word "As" in the SWP document. Notice, however, that you must insert a space in between the LaTeX command and the next word; otherwise, there will be no space in the typeset document.

## 5 Rotate

One may want to rotate a figure. This can be done by using the Rotate style file. Go to Typeset->Options and Packages->Add->Rotate. Create two TeX boxes, one before and one after the figure

that is to be rotated. In the first, type: `\begin{sideways}`. In the second, type: `\end{sideways}`. Here is an example:

$$\begin{array}{c} \begin{array}{ccc} 7 & 8 & 9 \end{array} \\ 4 & 5 & 6 \\ \begin{array}{ccc} 1 & 2 & 3 \end{array} \end{array}$$

## 6 Fancyhdr

The fancy heading package is a macro package that allows a person to customize LaTeX code for your headers and footers, decorative headers and footers, and headers and footers wider than the width of the text. A simple example of this can be given and seen after adding the fancyhdr package to your SWP and typing the following code.

### 6.1 pagestyle

One of the neat functions of the fancyhdr Latex code is that you can change where how your headers/footers appear, what they say, and how often they are placed. There are a number of ways to present these, two of which are plain and fancy. The plain is what is default when creating a header/footer. However, a header/footer as I have created in this document can be created using the fancy style of page editing. The header and footer I have created can be accomplished by typing in the following code:

```
\pagestyle{fancy}
\lhead{Brad Shindle}
\chead{}
\rhead{\bfseries The fanclub book of Dr. Price}
\lfoot{From: SWP students}
\cfoot{To: Dr. Price}
\rfoot{\thepage}
\renewcommand{\headrulewidth}{0.4pt}
\renewcommand{\footrulewidth}{0.4pt}
```

## 7 Showkeys

This style file gives us gray writing on our document so we see for example what is being cross referenced and where. To apply this style file you just need to follow these commands:

1. Click on Typeset at the top
2. Click on Options and Packages from the drop down list
3. Double Click on showkeys in the box
4. Change all the options to yes, to make everything active in this style file option, then click ok in the top right.
5. Now click ok in the bottom right

Here is an example aimed at referencing a nonexistent item:<sup>nonexisting item</sup>?? and there are also many other examples throughout this project.

## 8 Geometry: Margins

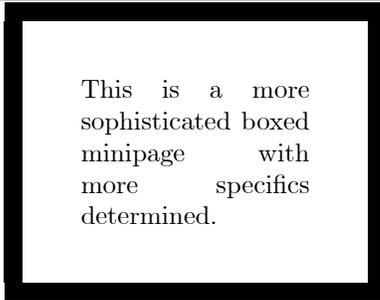
First, add "Geometry" package through the typeset menu "Options and Packages". Then, enter into the "preamble" the code

```
\geometry{left=.5in,right=.5in,top=.7in,bottom=.7in}
```

This sets the margins on the page. *Note: The line seen above will not appear in the preamble prior to your adding it.*

## 9 Boxed Minipages

The Boxed Minipages are very useful for emphasizing items.



First, add "Boxedminipages" package through the typeset menu "Options and Packages". Proceed by entering in 'TeX fields'. Begin a subfigure with the command

```
\begin{boxedminipage}{x}
```

This encapsulated TeX field will be the boxed environment that is x in width. To end the environment enter the command

```
\end{boxedminipage}
```

*Note: It is possible to adjust the thickness and the font of the boxed mini page with commands or through the packages properties. The common commands include:*

```
\setlength{\fboxrule}{apt}  
\setlength{\fboxsep}{bpt}
```

The a adjusts the thickness of the outline of the box while the b determines the distance around the typing that the box exists, the larger the b the more space around the typing before the outline begins.

The following commands were used for the first boxedminipage:

```
\begin{boxedminipage}{4in}
```

```
\end{boxedminipage}
```

The following commands were used for the second boxedminipage:

```
\setlength{\fboxrule}{7pt}
```

```
\setlength{\fboxsep}{22pt}
```

```
\begin{boxedminipage}
```

```
\end{boxedminipage}
```

## 10 Enumerate

The enumerate package gives you the option to change the counter in numbered lists. In order to use this package you must

- I. Add the enumerate package to your document.
  - i) Go to Options and Packages in the Typset menu.
  - ii) If the enumerate package is not listed, click on the Add button.
  - iii) Select enumerate from the list
  - iv) Click OK.
- II. Go to the part of the document where you want the numbered list to appear.
- III. Click on the TeX button and check the encapsulated box and type the commands.
- IV. Click OK.

In the encapsulated TeX field you will type:

```
\begin{enumerate}[]
```

Inside the square brackets you will put how you want the list to be numbered. For example if you want uppercase letter you would type A in the square brackets. If you would like lowercase roman numerals then you would type i in the square brackets. On the next line you type:

```
\item
```

Leave one space and then type your text. Repeat the last step for each entry of your list. Then type

```
\end{enumerate}
```

Then continue on with your document.

## 11 Acronyms

Acronyms is the last style file I will discuss. It allows the user to display long proper nouns by the first letter of each word. First, define the acronyms you want to use with TeX fields. In *my first acronym* type `\begin{acronym}`, next in *LWNS* type `\acro{acronym}{Long Word Needs Shortened}` and finally in *end my first acronym* type `\end{acronym}`. I made two acronyms for my engineering classes:

**AMC** Analysis of Mechanical Components

**FM** Fluid Mechanics

### 11.1 `\ac`

The first time `\ac{LWNS}` is used the acronym is expanded and only the acronym is used for subsequent uses of `\ac{LWNS}`.

**Example 1** *Analysis of Mechanical Components (AMC) and again AMC*

**Example 2** *Fluid Mechanics (FM) and again FM*

### 11.2 `\acf`

Use `\acf{LWNS}` if you always want the full name of the acronym to appear.

**Example 3** *Analysis of Mechanical Components (AMC) and again Analysis of Mechanical Components (AMC)*