Data 110- Markdown Tutorial

Introduction

Markdown is a lightweight markup language with plain text formatting syntax. It's designed so that it can be converted to HTML and many other formats. Markdown is often used to format readme files, for writing messages in online discussion forums, and to create rich text using a plain text editor.

As students of data visualization, you'll find Markdown particularly useful for documentation, report writing, and even presenting your data findings in a structured and visually appealing way.

Basic Syntax

Headers

Headers are essential for structuring content. Use `#` for a header level one, `##` for level two, and so on.

```
# Header 1
## Header 2
### Header 3
```

Emphasis

```
*This text will be italic*
_This will also be italic_

**This text will be bold**
__This will also be bold__

_You **can** combine them_
```

Lists

Lists are great for presenting a series of information.

Unordered

```
* Item 1
* Item 2
  * Item 2a
  * Item 2b
```

Ordered

```
2. Item 2
3. Item 3
   1. Item 3a
   2. Item 3b
```

Links

Links are essential to connect to other resources.

```
[Montgomery College](https://www.montgomerycollege.edu)
```

Images

Images make your content more engaging and can be used to include visualizations in your reports.

```
![MC logo](/images/mclogo.png)
or
!([MC logo]
(https://upload.wikimedia.org/wikipedia/commons/d/d6/Montgomery_College_Logo_Horizontal.png))
```

Blockquotes

Blockquotes are great for quoting someone.

```
As Viktor E. Frankl said:
> When we are no longer able to change a situation, we are challenged to change  ourselves.
```

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Task Lists

Task lists are great for tracking to-do items.

```
- [x] Task 1
- [ ] Task 2
- [ ] Task 3
```

Footnotes

Footnotes allow you to add notes and references without cluttering the body of the document.

```
Here's a simple footnote[^1].

[^1]: This is the footnote.
```

Adding Python Code in Markdown

As data visualization students, you'll often work with Python code. Markdown allows you to present your code neatly formatted, which is essential for readability and understanding.

Python Code Snippets

You can include Python code snippets in your Markdown files. This is especially useful for demonstrating code examples, showing data processing steps, or sharing your data visualization scripts.

```
import matplotlib.pyplot as plt
import numpy as np

x = np.linspace(0, 10, 100)
y = np.sin(x)

plt.plot(x, y)
plt.title('Sine Wave')
plt.xlabel('x')
plt.ylabel('y')
plt.show()
```

Using Markdown in Your Projects

Markdown is incredibly useful in your data visualization projects. You can use it to:

- Document your data preprocessing steps.
- Explain your data analysis logic.
- Present the findings from your visualizations.
- Create easy-to-read reports that combine code, visualizations, and narratives.

Conclusion

Markdown is an essential skill for data visualization practitioners. It helps in documenting your work, presenting your findings, and collaborating with others. As you advance in your data visualization journey, you'll find Markdown to be an invaluable tool in your toolkit.

Happy Markdown Writing!

```
This tutorial covers the basics and some advanced elements of Markdown,
providing a practical and concise guide.
```