

IntroToJupyter

July 11, 2021

1 Learning Markdown and Jupyter Notebooks

This notebook will contain information firstly on how to use markdown to format notes, then on using cells to print and execute code.

The markdown notes are mostly taken from <https://daringfireball.net/projects/markdown/basics>

2 A First Level Header

2.1 A Second Level Header

Now is the time for all good men to come to the aid of their country. This is just a regular paragraph.

The quick brown fox jumped over the lazy dog's back.

2.1.1 Header 3

This is a blockquote.

This is the second paragraph in the blockquote.

2.2 This is an H2 in a blockquote

2.3 Bold and Italics

emphasis = italics

strong emphasis = bold

Some of these words *are emphasized*. Some of these words *are emphasized also*.

Use two asterisks for **strong emphasis**. Or, if you prefer, use two underscores instead.

2.4 Lists

2.4.1 Unordered Lists

can be done using asterisks, plusses and hyphens (*, +, -)

as such:

- uo list item 1
- uo list item 2

- uo li 3
- and so on

or:

- uo list item 1
- uo list item 2
- uo li 3
- and so on

notice how the source md code is different but the output is the same.

nested lists

- some list item
 - section 1
 - section 2
 - section 3

2.5 Ordered Lists

1. Red
2. Green
3. Blue

They can also be nested with ordered and unordered list items:

1. Red
 - red paint
 - red carpet
 - red car
2. Green
 1. Green grass
 2. Green glasses
 3. Something else green
3. Blue

Note how in the source code, for the nested ordered list items, I used 1. 2. 3. and it printed A. B. C. in the output.

3 Links

links can be simply put into the document as such:

<https://hcpcl.play-cricket.com>

or with text to click to take you to the link

[home counties premier league website](#)

3.1 Reference Style Links

you can refer to your links by a name as such:

I get 10 times more traffic from [Google](#) than from [Yahoo](#) or [MSN](#).

4 Code in Paragraphs

done using backticks (`)

in this mode, html tags are easy to write, e.g: `<div>`

To specify an entire block of pre-formatted code, indent every line of the block by 4 spaces or 1 tab. Just like with code spans, `&`, `<`, and `>` characters will be escaped automatically.

e.g:

```
<blockquote>
    <p>For example.</p>
</blockquote>
```

4.1 Python Code as md

This is done in the same manner as the block of html code. by tabbing the entire block. E.g:

```
import numpy as np

def incmatrix(genl1,genl2):
    m = len(genl1)
    n = len(genl2)
    M = None #to become the incidence matrix
    VT = np.zeros((n*m,1), int) #dummy variable

    #compute the bitwise xor matrix
    M1 = bitxormatrix(genl1)
    M2 = np.triu(bitxormatrix(genl2),1)

    for i in range(m-1):
        for j in range(i+1, m):
            [r,c] = np.where(M2 == M1[i,j])
            for k in range(len(r)):
                VT[(i)*n + r[k]] = 1;
                VT[(i)*n + c[k]] = 1;
                VT[(j)*n + r[k]] = 1;
                VT[(j)*n + c[k]] = 1;

            if M is None:
                M = np.copy(VT)
            else:
```

```
M = np.concatenate((M, VT), 1)

VT = np.zeros((n*m,1), int)

return M
```

I need to find how to style this code to highlight keywords etc but its a good start. Will ask Balaji as i think this is what he was referring to when he spoke about using a md cell to write python code that is simply printed and never actually evaluated.

4.2 Using symbols that usually are used to enter some environment

for example, the backtick is used to print code, so simply typing the backtick will not print that symbol. It must be preceded by a backslash.

E.g:

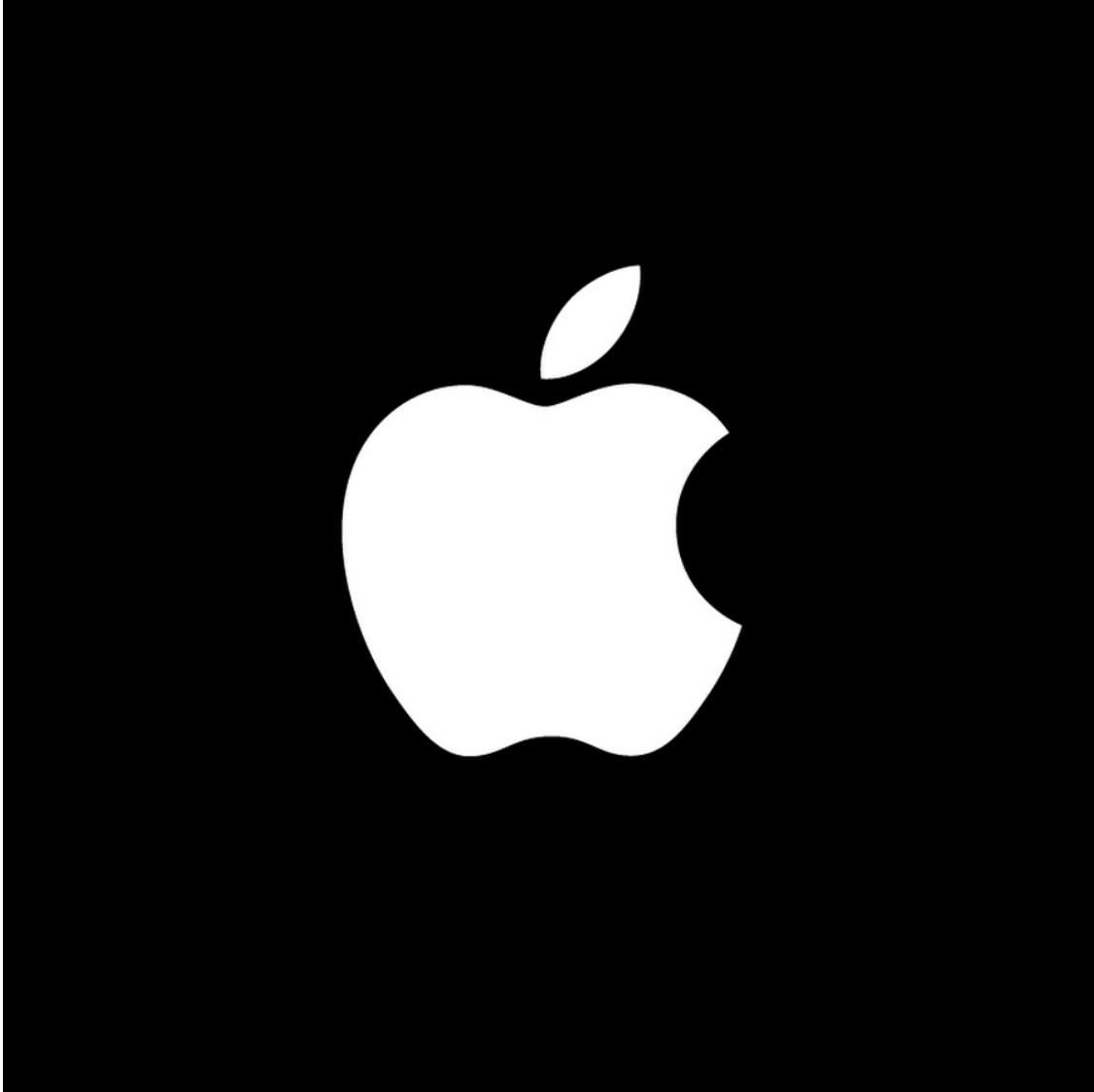
`

5 Adding Images

You need to open the file of the image. This is done the same way as typing a link, except with the inclusion of an exclamation mark before. Since my current directory is

`/Users/georg1/Documents/JupyterNotebooks`

I could place an image in this directory and print the image as follows:



or place an image in a sub-directory (in this instance called Images) and get the image from there:

