Quarto Tables in PDF

# Markdown tables

| Common Name | Latin Name | First identified in |
| --- | --- | --- |
| Adélie | Pygoscelis adeliae | 1841 |
| Chinstrap | Pygoscelis antarcticus | 1781 |
| Gentoo | Pygoscelis papua | 1781 |

# Better tables

from palmerpenguins import load\_penguins  
import pandas as pd  
import numpy as np  
  
penguins = load\_penguins()  
penguins\_cleaned = penguins.dropna()  
penguins\_cleaned

|  | species | island | bill\_length\_mm | bill\_depth\_mm | flipper\_length\_mm | body\_mass\_g | sex | year |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | Adelie | Torgersen | 39.1 | 18.7 | 181.0 | 3750.0 | male | 2007 |
| 1 | Adelie | Torgersen | 39.5 | 17.4 | 186.0 | 3800.0 | female | 2007 |
| 2 | Adelie | Torgersen | 40.3 | 18.0 | 195.0 | 3250.0 | female | 2007 |
| 4 | Adelie | Torgersen | 36.7 | 19.3 | 193.0 | 3450.0 | female | 2007 |
| 5 | Adelie | Torgersen | 39.3 | 20.6 | 190.0 | 3650.0 | male | 2007 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 339 | Chinstrap | Dream | 55.8 | 19.8 | 207.0 | 4000.0 | male | 2009 |
| 340 | Chinstrap | Dream | 43.5 | 18.1 | 202.0 | 3400.0 | female | 2009 |
| 341 | Chinstrap | Dream | 49.6 | 18.2 | 193.0 | 3775.0 | male | 2009 |
| 342 | Chinstrap | Dream | 50.8 | 19.0 | 210.0 | 4100.0 | male | 2009 |
| 343 | Chinstrap | Dream | 50.2 | 18.7 | 198.0 | 3775.0 | female | 2009 |

The [tabulate package](https://pypi.org/project/tabulate/) is currently the best solution for custom formatting Word tables from Python objects.

from IPython.display import Markdown  
from tabulate import tabulate  
  
penguins\_small = penguins.head(15).iloc[:, :4]  
penguins\_small.columns = penguins\_small.columns.str.replace('\_', '.')  
  
  
Markdown(tabulate(  
 penguins\_small,  
 headers=penguins\_small.columns,  
 showindex="never"  
))

| species | island | bill.length.mm | bill.depth.mm |
| --- | --- | --- | --- |
| Adelie | Torgersen | 39.1 | 18.7 |
| Adelie | Torgersen | 39.5 | 17.4 |
| Adelie | Torgersen | 40.3 | 18 |
| Adelie | Torgersen | nan | nan |
| Adelie | Torgersen | 36.7 | 19.3 |
| Adelie | Torgersen | 39.3 | 20.6 |
| Adelie | Torgersen | 38.9 | 17.8 |
| Adelie | Torgersen | 39.2 | 19.6 |
| Adelie | Torgersen | 34.1 | 18.1 |
| Adelie | Torgersen | 42 | 20.2 |
| Adelie | Torgersen | 37.8 | 17.1 |
| Adelie | Torgersen | 37.8 | 17.3 |
| Adelie | Torgersen | 41.1 | 17.6 |
| Adelie | Torgersen | 38.6 | 21.2 |
| Adelie | Torgersen | 34.6 | 21.1 |

Pandas directly

# Initialize random dataframe  
df\_test = pd.DataFrame(np.random.normal(size=(10, 2)),  
 columns=['A', 'B'])  
  
# Style functions  
  
  
def compare\_columns(data, column1, column2, color1, color2):  
 attr = 'background-color: {}'  
 if data[column1] > data[column2]:  
 return [attr.format(color1) for s in data]  
 elif data[column1] <= data[column2]:  
 return [attr.format(color2) for s in data]  
  
  
df\_test.style.apply(compare\_columns, column1='A',  
 column2='B', color1='red',  
 color2='green', axis=1)

|  | A | B |
| --- | --- | --- |
| 0 | -1.505965 | 0.226209 |
| 1 | 0.268669 | 1.051778 |
| 2 | -0.322907 | 0.436661 |
| 3 | 0.495953 | -0.595919 |
| 4 | 0.264184 | 0.026925 |
| 5 | 1.653134 | 0.474778 |
| 6 | 1.109382 | -0.393384 |
| 7 | -0.660056 | -0.190441 |
| 8 | 0.049088 | 1.413203 |
| 9 | -0.681487 | -1.170741 |