# Portfolio assignment 9

25 min: Perform a bivariate analysis on the columns with numerical data in the penguins dataset.

- Use corr() on the DataFrame to calculate all the correlations. Use the code example above to show the correlation table with colors.
- Look at the corrrelations. Do they match your expectations?
- Show a scatter plot for
  - The strongest positive correlation
  - The strongest negative correlation
  - The weakest correlation

In [1]:

```python
import seaborn as sns
```

In [2]:

```python
penguins = sns.load_dataset("penguins")
```

In [3]:

```python
exampleDataCorrelations = penguins.corr()
exampleDataCorrelations.style.background_gradient(cmap='coolwarm', axis=None).set_precision
```

```
C:\Users\dekei\AppData\Local\Temp/ipykernel_14348/3557949741.py:2: FutureWar
ning: this method is deprecated in favour of `Styler.format(precision=..)`
  exampleDataCorrelations.style.background_gradient(cmap='coolwarm', axis=No
ne).set_precision(2)
```

Out[3]:

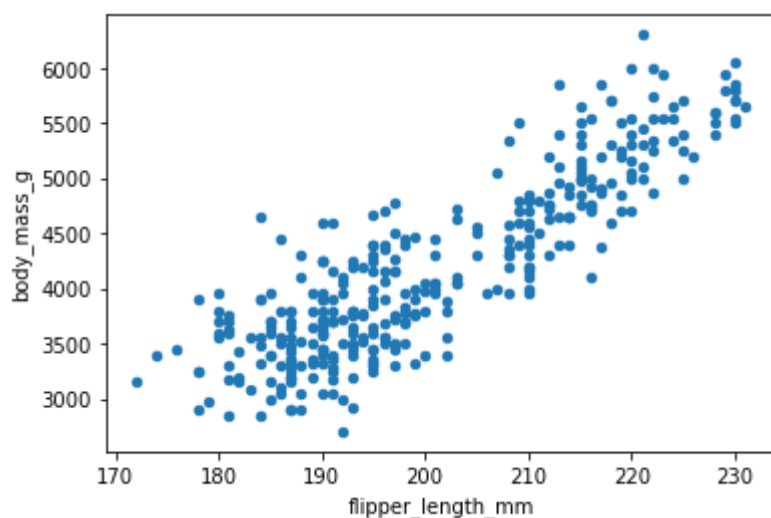|  | bill_length_mm | bill_depth_mm | flipper_length_mm | body_mass_g |
|---|---|---|---|---|
| **bill_length_mm** | 1.00 | -0.24 | 0.66 | 0.60 |
| **bill_depth_mm** | -0.24 | 1.00 | -0.58 | -0.47 |
| **flipper_length_mm** | 0.66 | -0.58 | 1.00 | 0.87 |
| **body_mass_g** | 0.60 | -0.47 | 0.87 | 1.00 |

Strongest positive correlation

In [4]:

```python
penguins.plot(kind='scatter', x='flipper_length_mm', y='body_mass_g')
```

Out[4]:

```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='body_mass_g'>
```
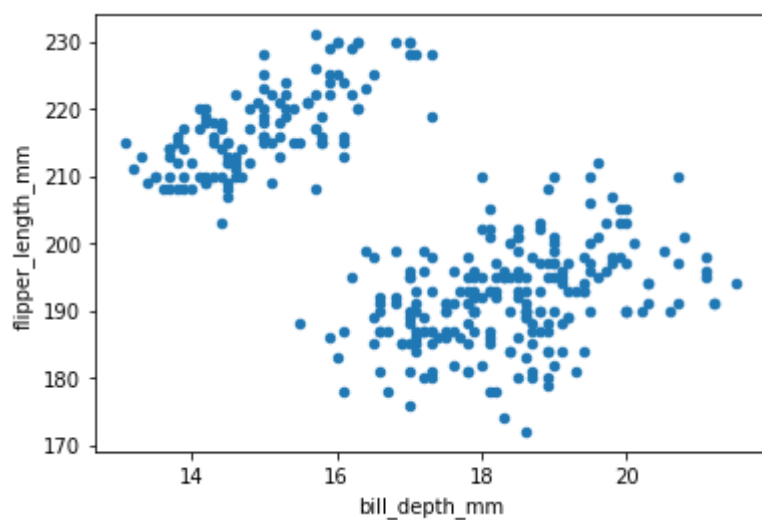


In [5]:

```python
penguins.plot(kind='scatter', x='bill_depth_mm', y='flipper_length_mm')
```

Out[5]:

```
<AxesSubplot:xlabel='bill_depth_mm', ylabel='flipper_length_mm'>
```

In [6]:

```python
penguins.plot(kind='scatter', x='bill_length_mm', y='bill_depth_mm')
```

Out[6]:

```
<AxesSubplot:xlabel='bill_length_mm', ylabel='bill_depth_mm'>
```