In [123]:
```
import seaborn as sns
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
```

Loading the Penguins Dataset

In [124]:
```
penguins = sns.load_dataset('penguins')
penguins.head()
```

Out[124]:

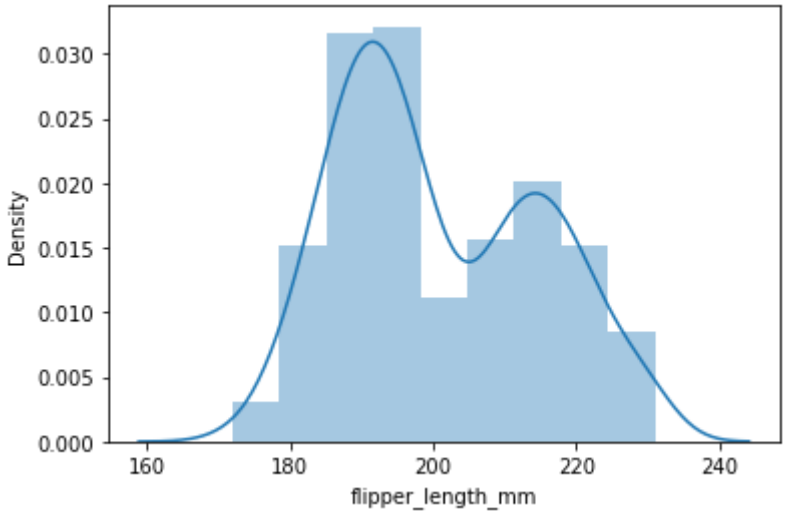
	species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex
0	Adelie	Torgersen	39.1	18.7	181.0	3750.0	Male
1	Adelie	Torgersen	39.5	17.4	186.0	3800.0	Female
2	Adelie	Torgersen	40.3	18.0	195.0	3250.0	Female
3	Adelie	Torgersen	NaN	NaN	NaN	NaN	NaN
4	Adelie	Torgersen	36.7	19.3	193.0	3450.0	Female

Drawing a Simple displot

In [125]:
```
sns.distplot(penguins.flipper_length_mm)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

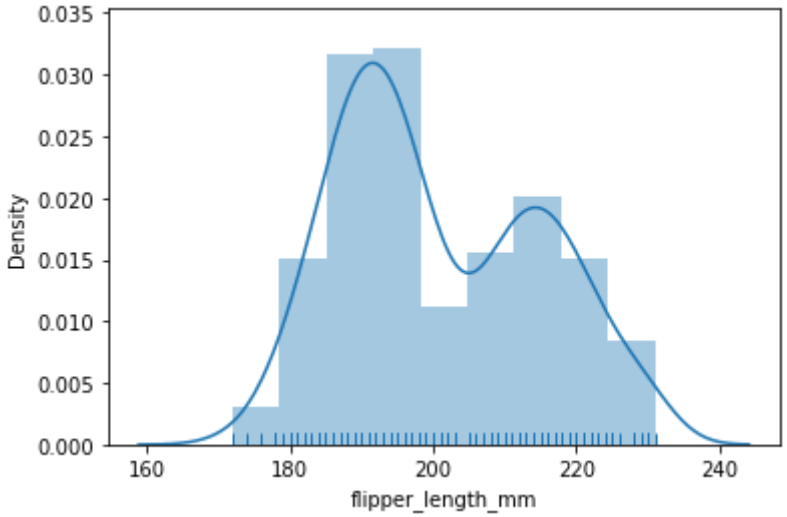
Out[125]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```



In [89]:
```
sns.distplot(penguins.flipper_length_mm,rug = True)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2056:
FutureWarning: The `axis` variable is no longer used and will be removed.
Instead, assign variables directly to `x` or `y`.
  warnings.warn(msg, FutureWarning)
```

Out[89]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```

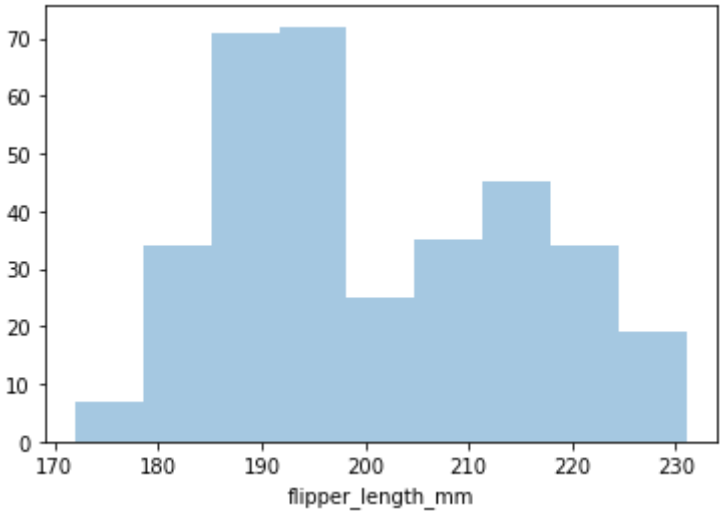


Removing the KDE plot

In [90]:
```
sns.distplot(penguins.flipper_length_mm,kde = False)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

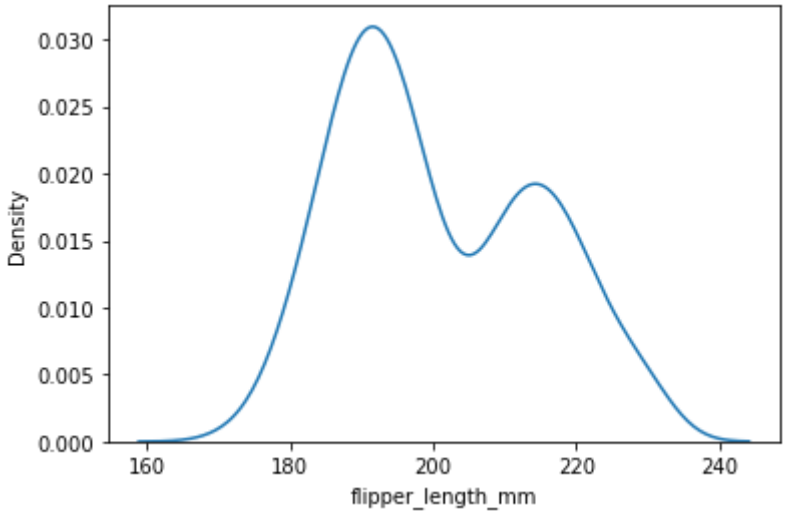
Out[90]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```



In [91]:
```
sns.distplot(penguins.flipper_length_mm,hist = False)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `kdeplot` (an axes-level fu
nction for kernel density plots).
  warnings.warn(msg, FutureWarning)
```

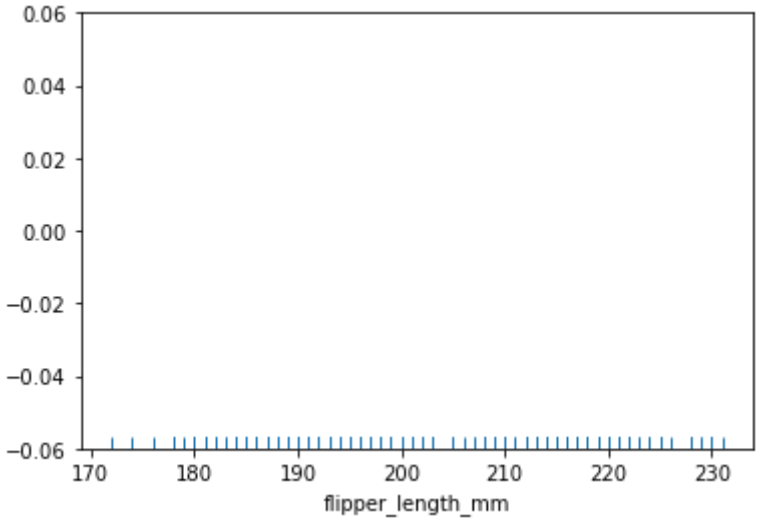
Out[91]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```



In [92]:
```
sns.distplot(penguins.flipper_length_mm,kde = False,rug = True,hist = False
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2056:
FutureWarning: The `axis` variable is no longer used and will be removed.
Instead, assign variables directly to `x` or `y`.
  warnings.warn(msg, FutureWarning)
```

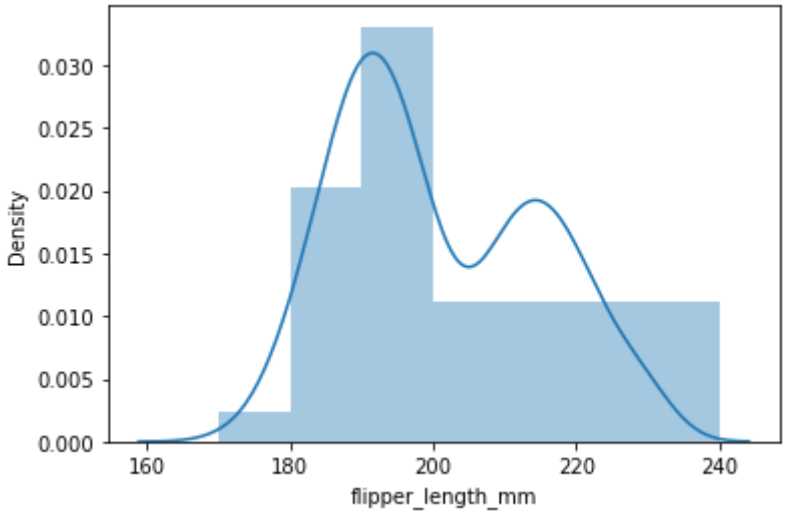
Out[92]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```



In [93]:
```
sns.distplot(penguins.flipper_length_mm,bins = [160,170,180,190,200,240])
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

Out[93]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```

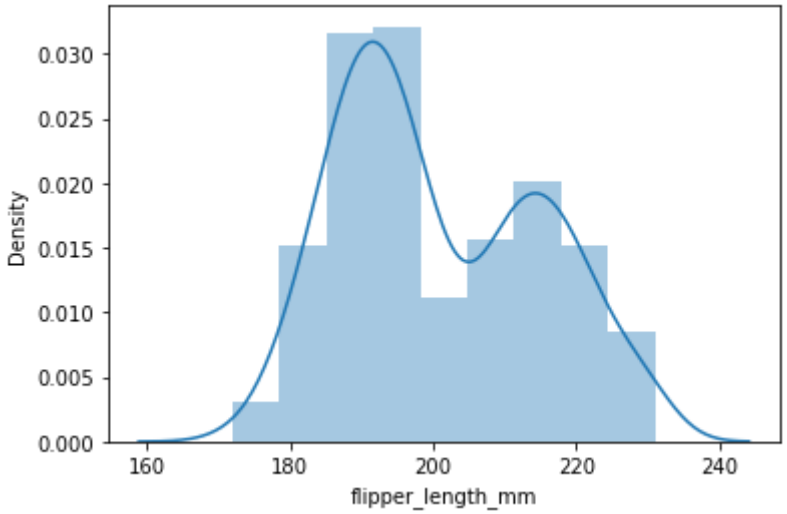


fitting the data to a particular distribution using norm_hist

In [94]:
```
sns.distplot(penguins.flipper_length_mm,norm_hist = True)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

Out[94]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```

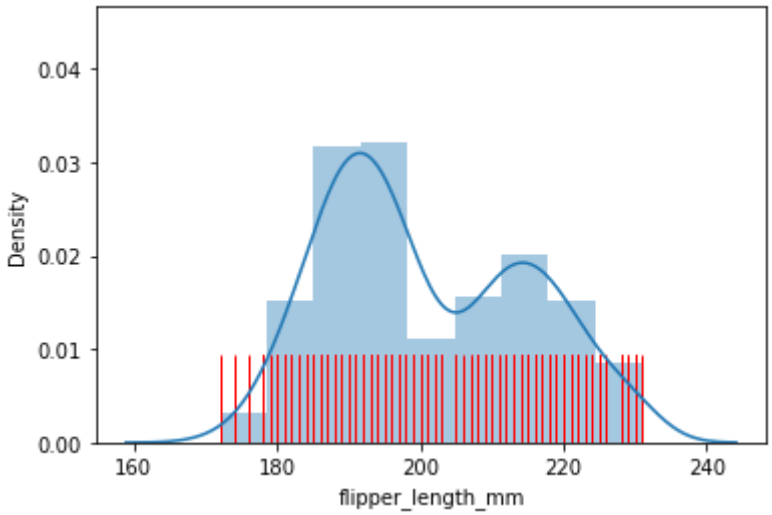


Styling rugplots

In [95]:
```
sns.distplot(penguins.flipper_length_mm,rug_kws = {'color':'red','height':0
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2056:
FutureWarning: The `axis` variable is no longer used and will be removed.
Instead, assign variables directly to `x` or `y`.
  warnings.warn(msg, FutureWarning)
```

Out[95]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```

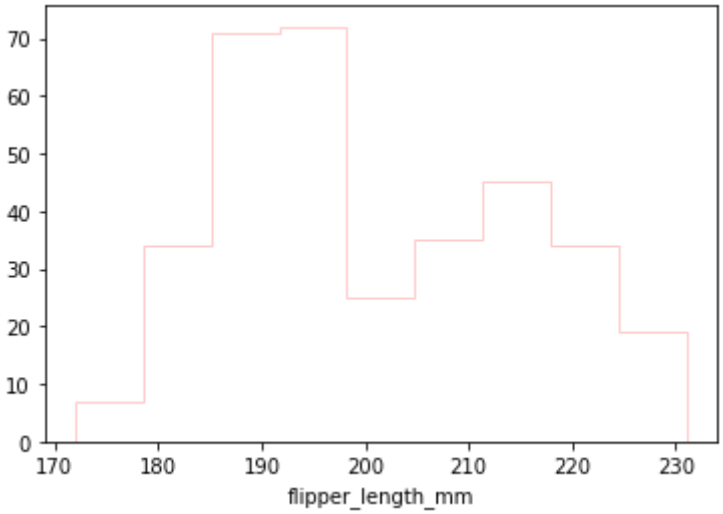


Styling Histograms

In [96]:
```
sns.distplot(penguins.flipper_length_mm,kde = False,hist_kws = {'color':'re
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

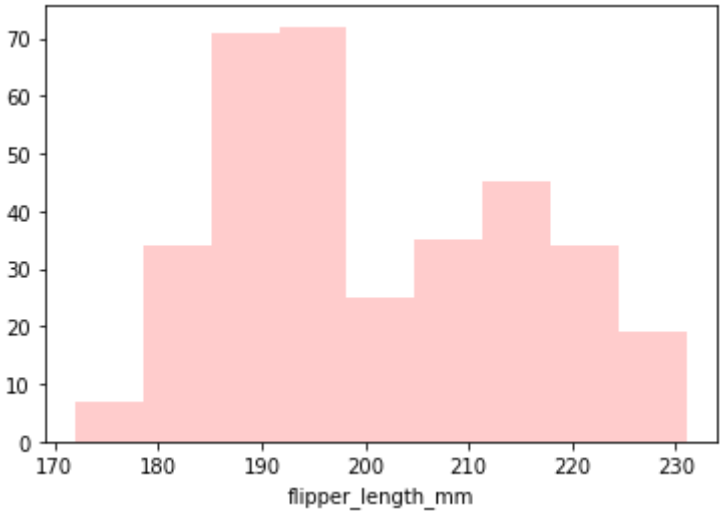
Out[96]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```



In [97]:
```
sns.distplot(penguins.flipper_length_mm,kde = False,hist_kws = {'color':'re
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

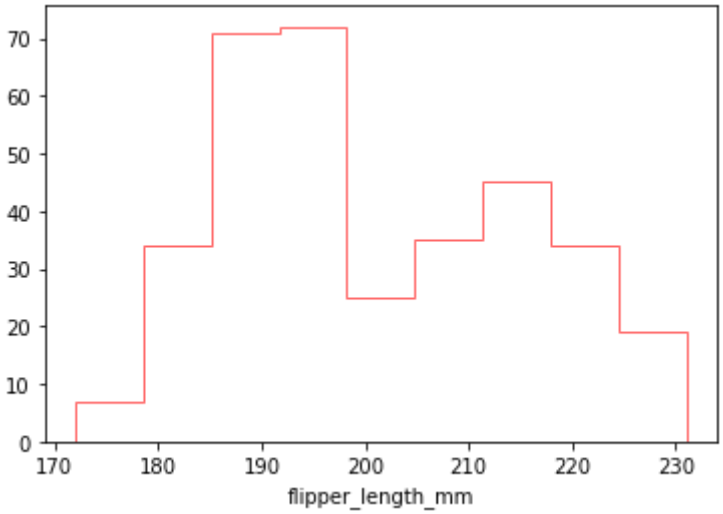
Out[97]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```



In [98]:
```
sns.distplot(penguins.flipper_length_mm,kde = False,hist_kws = {'color':'re
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

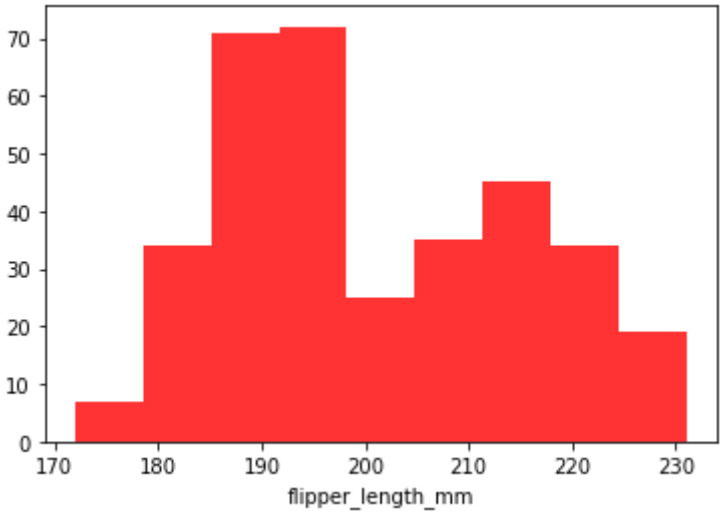
Out[98]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```



In [99]:
```
sns.distplot(penguins.flipper_length_mm,kde = False,hist_kws = {'color':'re
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `histplot` (an axes-level f
unction for histograms).
  warnings.warn(msg, FutureWarning)
```

Out[99]:
```
<AxesSubplot:xlabel='flipper_length_mm'>
```

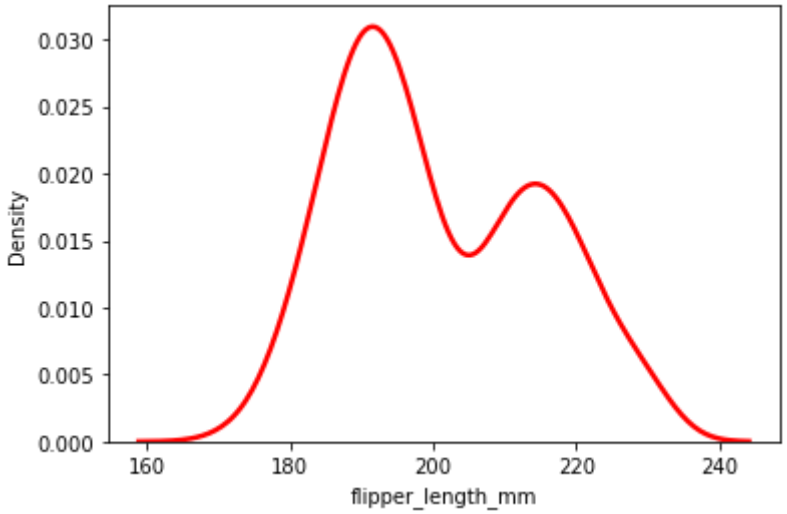


Styling KDE plots

In [100]:
```
sns.distplot(penguins.flipper_length_mm,kde = True,hist = False,kde_kws = {
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/distributions.py:2557:
FutureWarning: `distplot` is a deprecated function and will be removed in
a future version. Please adapt your code to use either `displot` (a figur
e-level function with similar flexibility) or `kdeplot` (an axes-level fu
nction for kernel density plots).
  warnings.warn(msg, FutureWarning)
```

Out[100]:
```
<AxesSubplot:xlabel='flipper_length_mm', ylabel='Density'>
```



Box plots In Seaborn

load penguins dataset

Basic BoxPlot

island v/s bill_lenght_mm, hue attribute as sex, Horizontal bars, ordering of bars and color attribute

In [101]:
```
penguins.head()
```

Out[101]:

	species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex
0	Adelie	Torgersen	39.1	18.7	181.0	3750.0	Male
1	Adelie	Torgersen	39.5	17.4	186.0	3800.0	Female
2	Adelie	Torgersen	40.3	18.0	195.0	3250.0	Female
3	Adelie	Torgersen	NaN	NaN	NaN	NaN	NaN
4	Adelie	Torgersen	36.7	19.3	193.0	3450.0	Female

In [102]:
```
penguins.describe()
```

Out[102]:

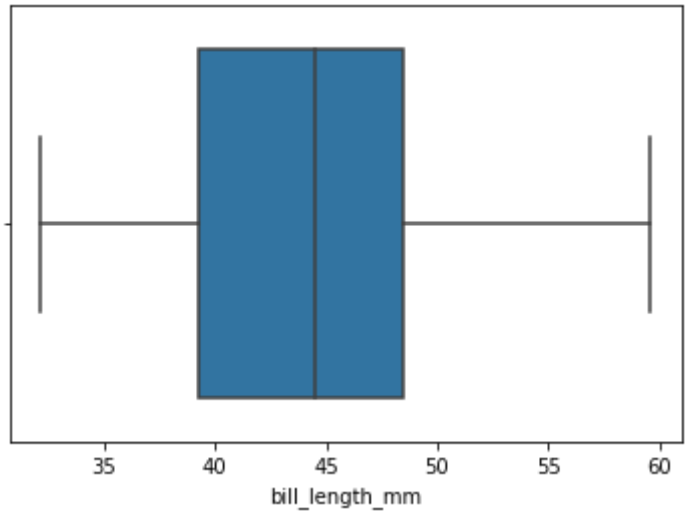
	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g
count	342.000000	342.000000	342.000000	342.000000
mean	43.921930	17.151170	200.915205	4201.754386
std	5.459584	1.974793	14.061714	801.954536
min	32.100000	13.100000	172.000000	2700.000000
25%	39.225000	15.600000	190.000000	3550.000000
50%	44.450000	17.300000	197.000000	4050.000000
75%	48.500000	18.700000	213.000000	4750.000000
max	59.600000	21.500000	231.000000	6300.000000

Box BoxPlot

In [103]:
```
sns.boxplot(penguins.bill_length_mm)
```

```
/opt/anaconda3/lib/python3.8/site-packages/seaborn/_decorators.py:36: Fut
ureWarning: Pass the following variable as a keyword arg: x. From version
0.12, the only valid positional argument will be `data`, and passing othe
r arguments without an explicit keyword will result in an error or misint
erpretation.
  warnings.warn(
```

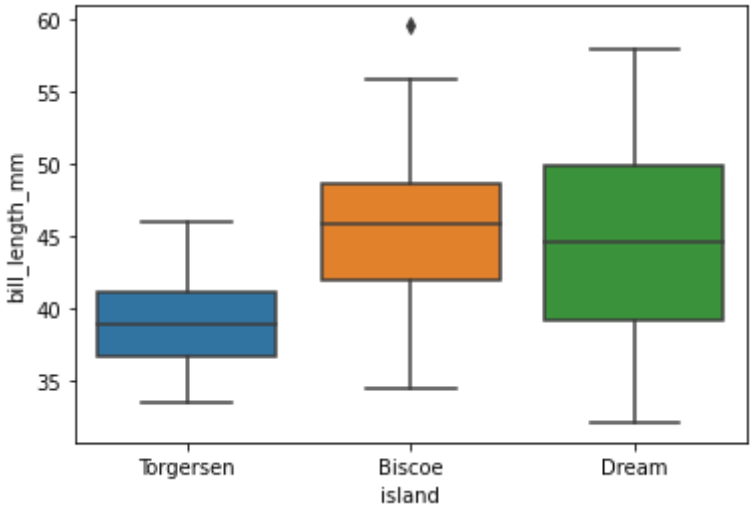
Out[103]: <AxesSubplot:xlabel='bill_length_mm'>



island v/s bill_lenght_mm,

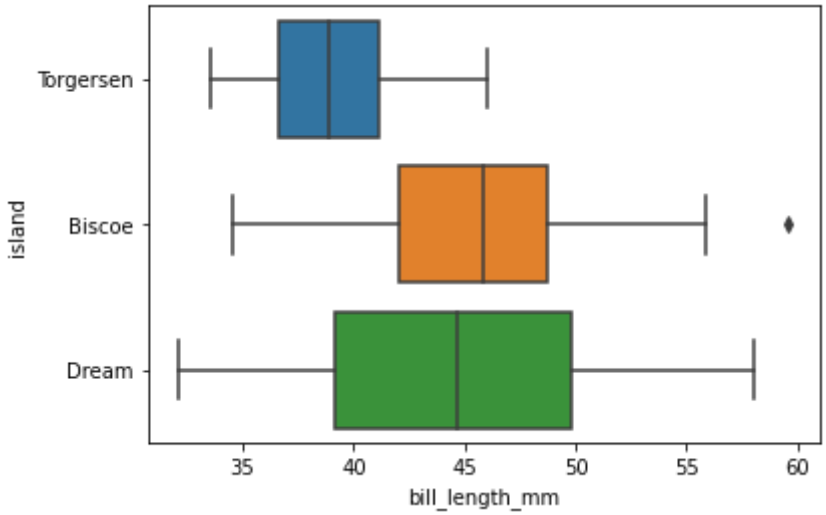
In [104]:
```
sns.boxplot(y = penguins.bill_length_mm,x = penguins.island)
```

Out[104]:
```
<AxesSubplot:xlabel='island', ylabel='bill_length_mm'>
```



In [105]:
```
sns.boxplot(x = penguins.bill_length_mm,y = penguins.island)
```

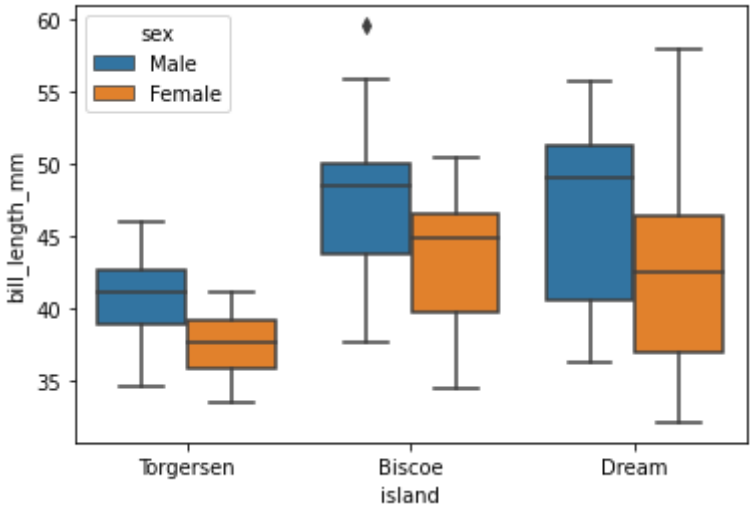
Out[105]:
```
<AxesSubplot:xlabel='bill_length_mm', ylabel='island'>
```



hue attribute as sex

In [106]:
```
sns.boxplot(y = penguins.bill_length_mm,x = penguins.island,hue = penguins.
```

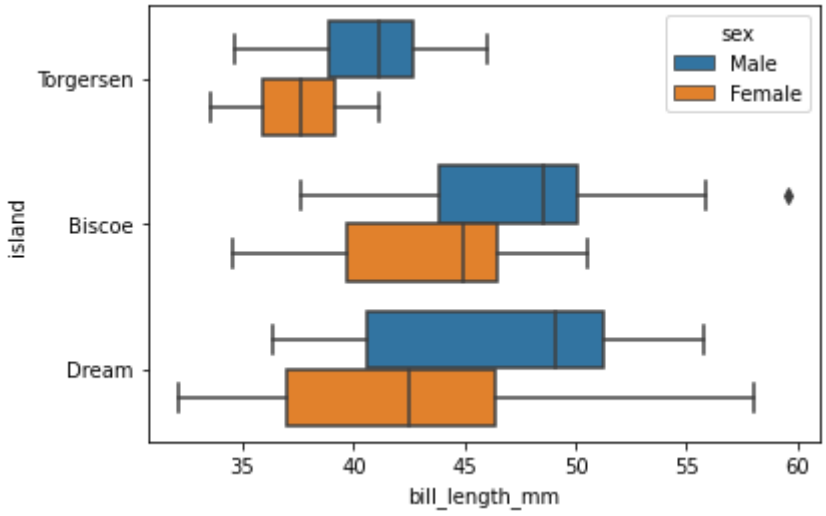
Out[106]:
```
<AxesSubplot:xlabel='island', ylabel='bill_length_mm'>
```



horizonta bar

In [107]:
```
sns.boxplot(x = penguins.bill_length_mm,y = penguins.island,hue = penguins.
```

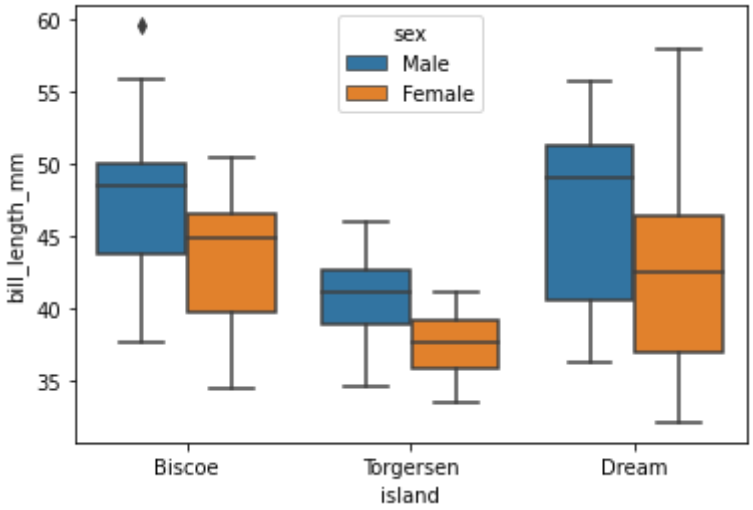
Out[107]:
```
<AxesSubplot:xlabel='bill_length_mm', ylabel='island'>
```



ordering the bars

In [108]:
```
sns.boxplot(y = penguins.bill_length_mm,x = penguins.island,hue = penguins.
```

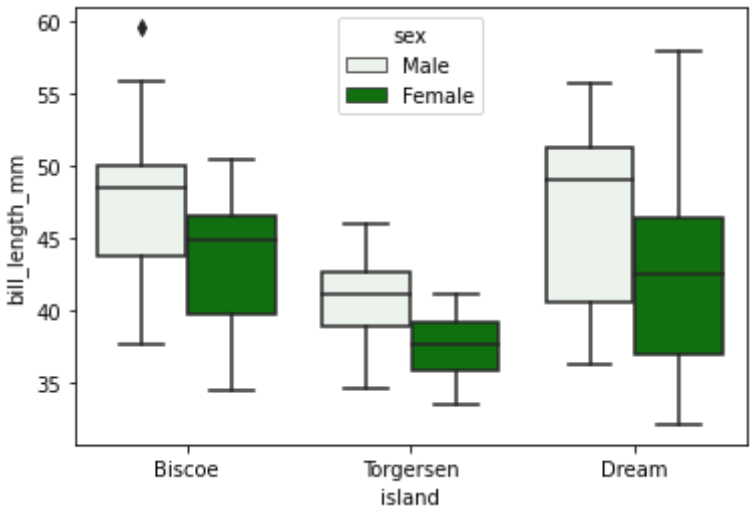
Out[108]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



how to change color attribute

In [109]:
```
ɔt(y = penguins.bill_length_mm,x = penguins.island,hue = penguins.sex,order
```

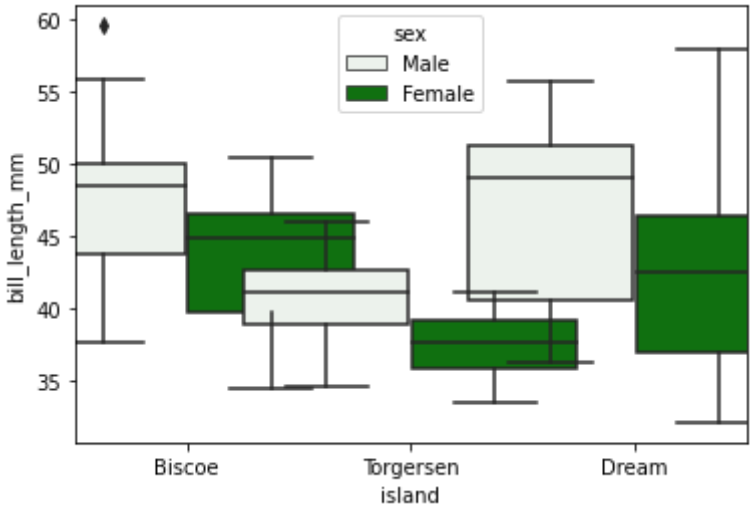
Out[109]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



width property

In [110]:
```
s.bill_length_mm,x = penguins.island,hue = penguins.sex,order = ['Biscoe','T
```

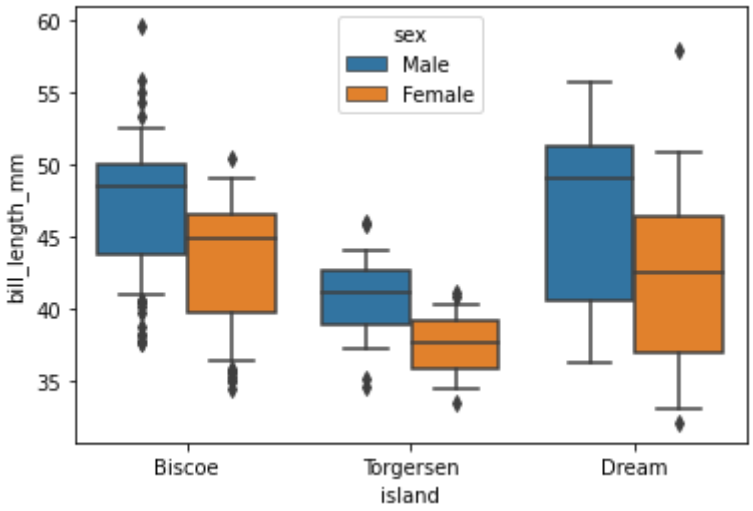
Out[110]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



whis property

In [111]:
```
ot(y = penguins.bill_length_mm,x = penguins.island,hue = penguins.sex,order
```

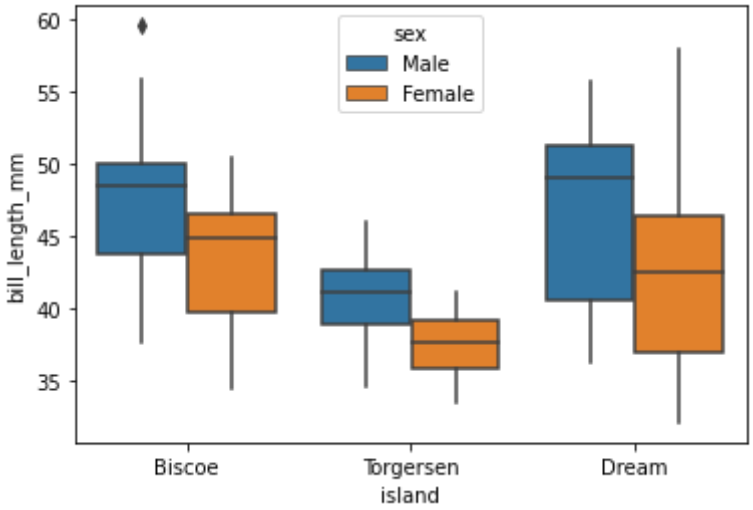
Out[111]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



showcaps property

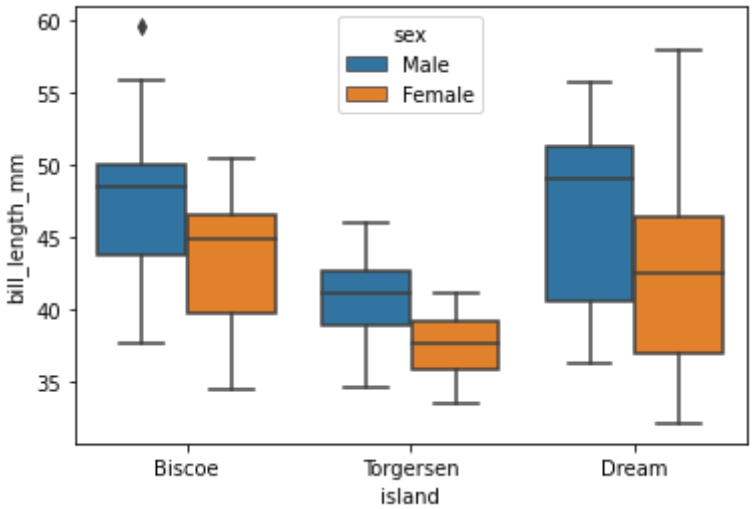
In [112]:
```
penguins.bill_length_mm,x = penguins.island,hue = penguins.sex,order = ['Bis
```

Out[112]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



In [113]:
```
penguins.bill_length_mm,x = penguins.island,hue = penguins.sex,order = ['Bi
```

Out[113]: <AxesSubplot:xlabel='island', ylabel='bill_length_mm'>



In [114]:
```
#fig = sns_plot.get_figure()
```

In [115]:
```
#fig.savefig(fname = 'plot.png')
```

In [ ]: