Untitled3

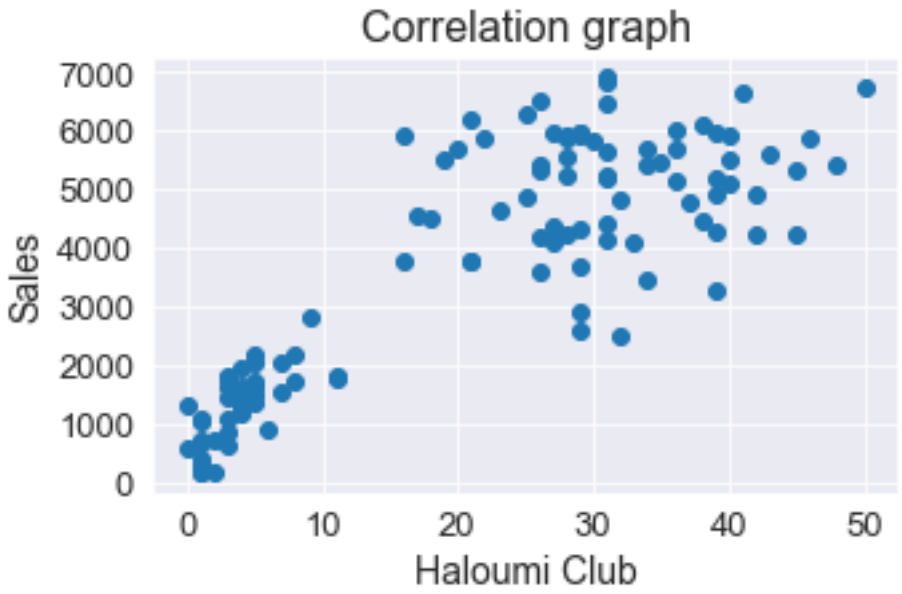
October 22, 2021

[84]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split

df = pd.read_excel("D:\Python\ML trial 1.xlsx")
```

[85]:
```
def scatter_plot(x,y,xlabel, ylabel, title):
    plt.figure(figsize=(5,3))
    sns.set_style('darkgrid')
    plt.scatter(x,y)
    plt.xticks(size='13',rotation='horizontal')
    plt.yticks(size='13')
    plt.xlabel(xlabel,size='14')
    plt.ylabel(ylabel,size='14')
    plt.title(title,size='16')
    return


scatter_plot(df['Haloumi Club'],df['Sales'],'Haloumi Club','Sales','Correlation␣
 ↪graph')
```



[91]:
```
x = df.iloc[:,1:58]
y = df['Sales']
```

[92]:
```
x_train,x_test,y_train,y_test =train_test_split(x,y)
```

[93]:
```
lin = LinearRegression()
lin.fit(x_train, y_train)
y_predict=lin.predict(x_test)
```

[94]:
```
coef = lin.coef_
components = pd.DataFrame(zip(x.columns,coef), columns=['component','value'])
components = components.append({'component':'intercept','value':lin.
 ↪intercept_}, ignore_index=True)
```

[99]:
```
lin.score(x_test, y_test)
```

[99]: 0.970514829177267