**Solution: Refactoring – Wine quality**

The following code shows the solution code. You can download the solution notebook file that contains the solution code.

import pandas as pd

df = pd.read\_csv('winequality-red.csv', sep=';')

df.head()

## Renaming Columns

df.columns = [label.replace(' ', '\_') for label in df.columns]

df.head()

## Analyzing Features

def numeric\_to\_buckets(df, column\_name):

median = df[column\_name].median()

for i, val in enumerate(df[column\_name]):

if val >= median:

df.loc[i, column\_name] = 'high'

else:

df.loc[i, column\_name] = 'low'

for feature in df.columns[:-1]:

numeric\_to\_buckets(df, feature)

print(df.groupby(feature).quality.mean(), '\n')

**Supporting Materials**

* [Refactor Wine Quality Solution](https://video.udacity-data.com/topher/2021/April/6076207f_refactor-wine-quality-solution/refactor-wine-quality-solution.ipynb)