Float Features

Learn about the float features used in the dataset.

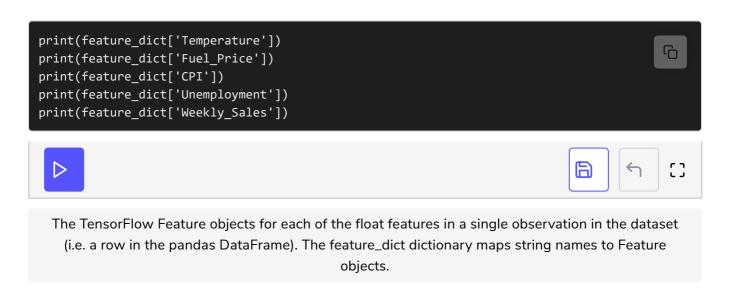
Chapter Goals:

• Add the float features of a DataFrame's row to a feature dictionary

A. Adding float features

Similar to the integer valued features in the DataFrame row, we also convert the row's float valued features when creating the Example object. Each of the float features will be represented by FloatList TensorFlow Feature objects after the row is converted to an Example.

From the analysis of our dataset, we know that the float valued features are 'Temperature', 'FuelPrice', 'CPI', 'Unemployment', and 'Weekly_Sales'.



The 'Weekly_Sales' feature acts as the *label* used in training and evaluating the machine learning model. However, this means that the feature is not present outside of training/evaluation, i.e. when making real-life sales predictions with the model.

Therefore, we only include the 'Weekly_Sales' feature in our Example objects for training and evaluation. In other words, only when the Example object should contain a label.

Time to Code!

In this chapter you'll be completing the add_float_features function, which adds all the float features in a dataset row to the feature dictionary.

```
The features that contain float values are: 'Temperature', 'Fuel_Price', 'CPI', 'Unemployment', and 'Weekly_Sales'.
```

However, we only use the 'Weekly_Sales' feature if has_labels is True. This is because the 'Weekly_Sales' feature represents the *label* used in training/evaluating the machine learning model, which is not present when making predictions.

Set float_vals equal to a list containing the feature names with float values. Only include 'Weekly_Sales' in the list if has_labels is True.

For each float valued feature, we'll create a FloatList containing the feature's value from dataset row.

Create a for loop that iterates through float_vals using a variable named feature_name.

Inside the for loop, set list_val equal to tf.train.FloatList initialized with the value keyword argument set to a singleton list containing dataset_row[feature_name].

We can now map the feature's name to a TensorFlow Feature object representing its float value.

Inside the for loop, set feature_name as a key in feature_dict. The value it maps to will be tf.train.Feature initialized with the float_list keyword argument set to list_val.

```
import tensorflow as tf

# Add the float Feature objects to the feature dictionary
def add_float_features(dataset_row, feature_dict, has_labels):
    # CODE HERE
    pass
```