

TEAM ID: PNT2022TMID44529

## PROJECT NAME: DemandEst - AI powered Food DemandForecaster

### Team Leader

The screenshot displays a Jupyter Notebook interface with two visible code cells. The first cell, titled 'Label Encoding', contains Python code that imports LabelEncoder from sklearn.preprocessing and applies it to the 'center\_type', 'category', and 'cuisine' columns of a dataset named 'trainfinal'. The second cell shows the output of 'trainfinal.head()' after the encoding process.

### Label Encoding

Typically, any structured dataset includes multiple columns with combination of numerical as well as categorical variables. A machine can only understand the numbers. It cannot understand the text. That's essentially the case with Machine Learning algorithms too.

We need to convert each text category to numbers in order for the machine to process those using mathematical equations. Label Encoding is a popular encoding technique for handling categorical variables implemented using the scikit-learn library in python. In this technique, each label is assigned a unique integer based on alphabetical ordering.

```
In [115]: from sklearn.preprocessing import LabelEncoder

lb1 = LabelEncoder()
trainfinal['center_type'] = lb1.fit_transform(trainfinal['center_type'])
lb2 = LabelEncoder()
trainfinal['category'] = lb2.fit_transform(trainfinal['category'])
lb3 = LabelEncoder()
trainfinal['cuisine'] = lb3.fit_transform(trainfinal['cuisine'])
```

In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
```

	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
0	1379560	1	647	56	2	2.0	0	3	136.83	152.29	0	0	
1	1018704	2	647	56	2	2.0	0	3	135.83	152.29	0	0	

```
trainfinal['center_type'] = lb1.fit_transform(trainfinal['center_type'])
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1	1018704	2	647	56	2	2.0	0	3	135.83	152.29	0	0	
2	1196273	3	647	56	2	2.0	0	3	132.92	133.92	0	0	
3	1116527	4	647	56	2	2.0	0	3	135.86	134.86	0	0	
4	1343872	5	647	56	2	2.0	0	3	146.50	147.50	0	0	

After performing label encoding, alphabetical classes- 'Center type, Category and City code are converted to numeric values.

Finally display number of rows and columns of trainfinal using shape()

```
In [117]: trainfinal.shape
```

```
Out[117]: (456548, 13)
```

# Team Member 1

The screenshot shows a Jupyter Notebook interface with the following content:

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trainfinal['cuisine'] = lb1.fit_transform(trainfinal['cuisine'])
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In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
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Out[116]:

	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
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```
trainfinal['center_type'] = lb1.fit_transform(trainfinal['center_type'])
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trainfinal['category'] = lb1.fit_transform(trainfinal['category'])
lb3 = LabelEncoder()
trainfinal['cuisine'] = lb1.fit_transform(trainfinal['cuisine'])
```

In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
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Out[116]:

	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
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Out[117]: (456548, 13)

## Team Member 2

**Label Encoding**

Typically, any structured dataset includes multiple columns with combination of numerical as well as categorical variables. A machine can only understand the numbers. It cannot understand the text. That's essentially the case with Machine Learning algorithms too.

We need to convert each text category to numbers in order for the machine to process those using mathematical equations. Label Encoding is a popular encoding technique for handling categorical variables implemented using the scikit-learn library in python. In this technique, each label is assigned a unique integer based on alphabetical ordering.

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trainfinal['center_type'] = lb1.fit_transform(trainfinal['center_type'])
lb2 = LabelEncoder()
trainfinal['category'] = lb1.fit_transform(trainfinal['category'])
lb3 = LabelEncoder()
trainfinal['cuisine'] = lb1.fit_transform(trainfinal['cuisine'])
```

In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
```

	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
0	1379560	1	647	56	2	2.0	0	3	136.83	152.29	0	0	
1	1018704	2	647	56	2	2.0	0	3	135.83	152.29	0	0	

```
trainfinal['center_type'] = lb1.fit_transform(trainfinal['center_type'])
lb2 = LabelEncoder()
trainfinal['category'] = lb1.fit_transform(trainfinal['category'])
lb3 = LabelEncoder()
trainfinal['cuisine'] = lb1.fit_transform(trainfinal['cuisine'])
```

In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
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	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
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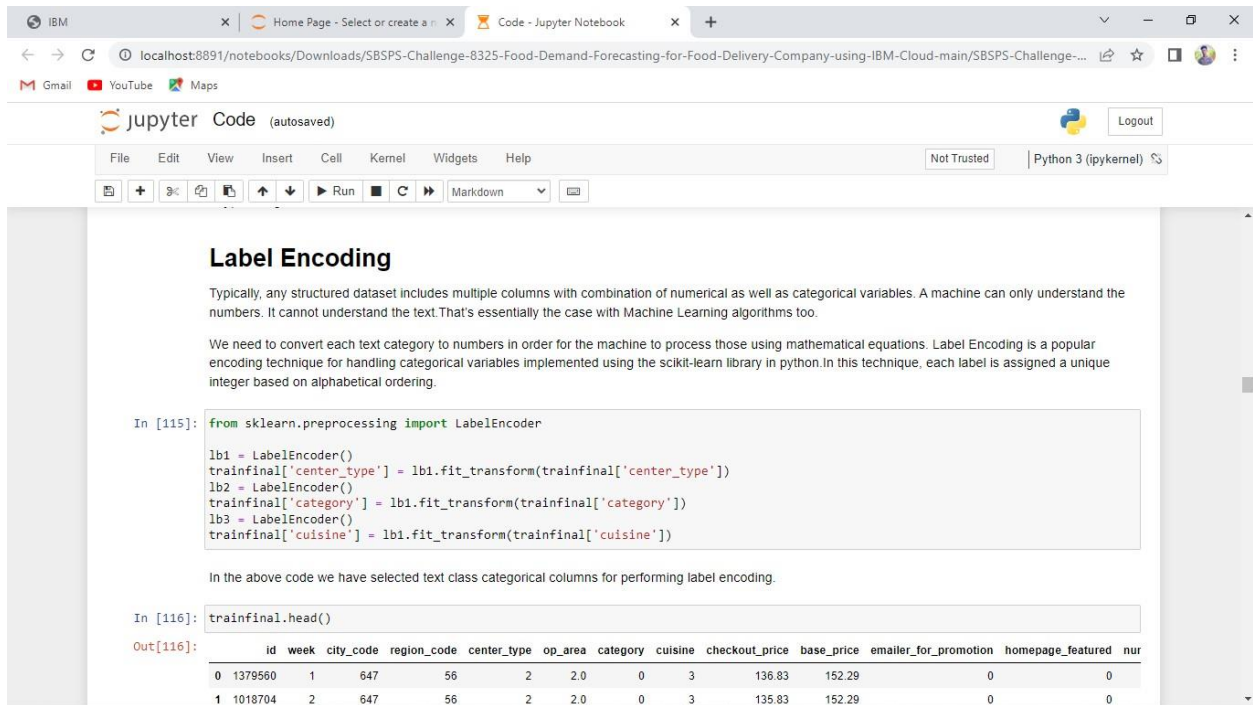
After performing label encoding, alphabetical classes - 'Center type, Category and City code are converted to numeric values.

Finally display number of rows and columns of trainfinal using shape()

```
In [117]: trainfinal.shape
```

```
Out[117]: (456548, 13)
```

# Team Member 3



This screenshot shows a Jupyter Notebook interface with the title "Label Encoding". The notebook contains two code cells. The first cell imports LabelEncoder from sklearn.preprocessing and applies it to the 'center\_type', 'category', and 'cuisine' columns of the 'trainfinal' dataset. The second cell displays the first few rows of the dataset using the head() method.

### Label Encoding

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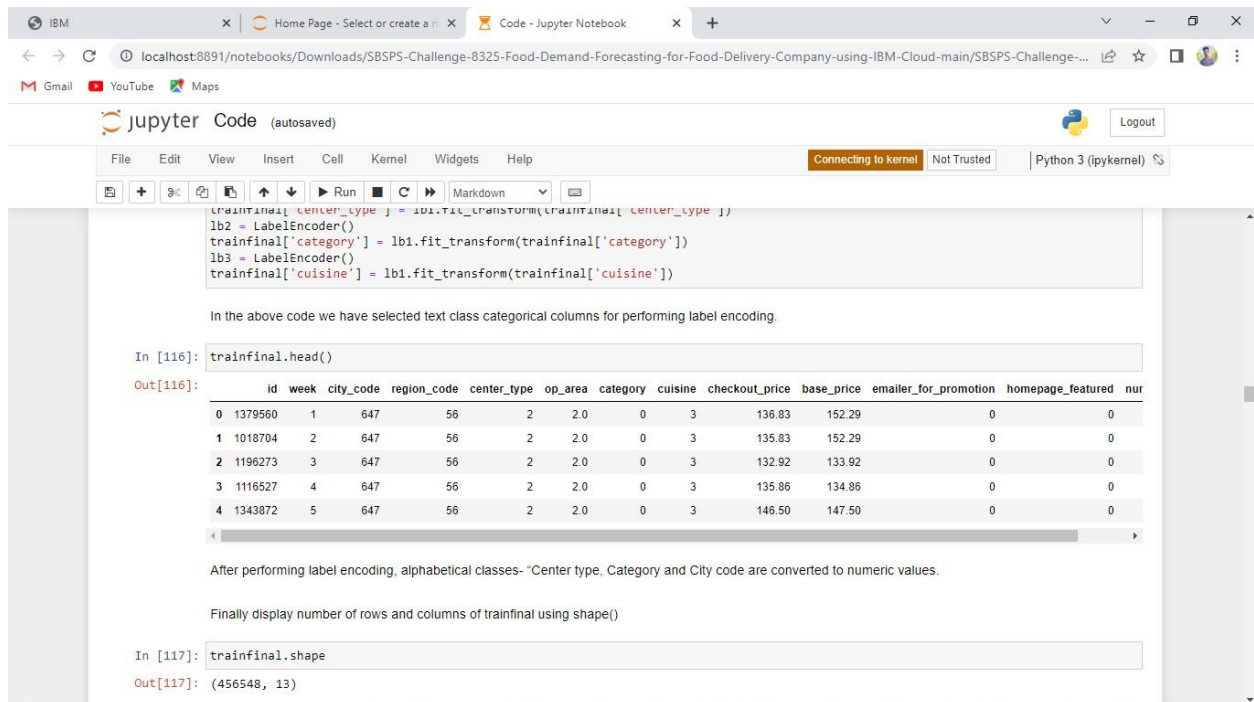
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trainfinal['category'] = lb1.fit_transform(trainfinal['category'])
lb3 = LabelEncoder()
trainfinal['cuisine'] = lb1.fit_transform(trainfinal['cuisine'])
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In the above code we have selected text class categorical columns for performing label encoding.

```
In [116]: trainfinal.head()
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	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
0	1379560	1	647	56	2	2.0	0	3	136.83	152.29	0	0	
1	1018704	2	647	56	2	2.0	0	3	135.83	152.29	0	0	



This screenshot shows the continuation of the Jupyter Notebook. The first code cell is repeated. The second code cell displays the first five rows of the dataset. The third code cell shows the shape of the dataset after label encoding.

```
In [116]: trainfinal.head()
```

	id	week	city_code	region_code	center_type	op_area	category	cuisine	checkout_price	base_price	emailer_for_promotion	homepage_featured	nur
0	1379560	1	647	56	2	2.0	0	3	136.83	152.29	0	0	
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After performing label encoding, alphabetical classes- "Center type, Category and City code are converted to numeric values.

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