





TEAM ID: PNT2022TMID51052

PROJECT NAME: DemandEst - AI powered Food Demand Forecasting

Team Leader











Jupyter Code (autosaved)

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Not Connected Not Trusted Python 3 (ipykernel)



Dropping Columns

Let's drop columns "center_id" and "meal_id" as they are not required for the further process. Display the changes of trainfinal table using head().

```
In [110]: trainfinal = trainfinal.drop(['center_id', 'meal_id'], axis=1)
trainfinal.head()
```

```
Out[110]:
```




| | id | week | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders | category | cuisine | city_code | region_code | center_type |
|---|---------|------|----------------|------------|-----------------------|-------------------|------------|-----------|---------|-----------|-------------|-------------|
| 0 | 1379560 | 1 | 136.83 | 152.29 | 0 | 0 | 177 | Beverages | Thai | 647 | 56 | TYPE_C |
| 1 | 1018704 | 2 | 135.83 | 152.29 | 0 | 0 | 323 | Beverages | Thai | 647 | 56 | TYPE_C |
| 2 | 1196273 | 3 | 132.92 | 133.92 | 0 | 0 | 96 | Beverages | Thai | 647 | 56 | TYPE_C |
| 3 | 1116527 | 4 | 135.86 | 134.86 | 0 | 0 | 163 | Beverages | Thai | 647 | 56 | TYPE_C |
| 4 | 1343872 | 5 | 146.50 | 147.50 | 0 | 0 | 215 | Beverages | Thai | 647 | 56 | TYPE_C |

Display the list of columns present in trainfinal table and store it in variable "cols"


```
In [111]: cols = trainfinal.columns.tolist()
print(cols)
```

```
['id', 'week', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders', 'category', 'cuisine', 'city_code', 'region_code', 'center_type', 'op_area']
```

Rearrange the columns by slicing the columns of "cols" and print "cols"











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Rearrange the columns by slicing the columns of "cols" and print "cols"

```
In [112]: cols = cols[:2] + cols[9:] + cols[7:9] + cols[2:7]
print(cols)
```

```
['id', 'week', 'city_code', 'region_code', 'center_type', 'op_area', 'category', 'cuisine', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders']
```

Store the changes of columns in trainfinal and display the datatypes of trainfinal using trainfinal.dtypes. Here, we can see that, we not only have numerical data but we also have object data.

```
In [113]: trainfinal = trainfinal[cols]
trainfinal.head()
```

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|-----|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id                int64
week                int64
```

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trainfinal.head()

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

In [114]: trainfinal.dtypes

```
Out[114]:
```

| | |
|-----------------------|---------|
| id | int64 |
| week | int64 |
| city_code | int64 |
| region_code | int64 |
| center_type | object |
| op_area | float64 |
| category | object |
| cuisine | object |
| checkout_price | float64 |
| base_price | float64 |
| emailer_for_promotion | int64 |
| homepage_featured | int64 |
| num_orders | int64 |
| dtype: | object |

Team Member 1

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Dropping Columns

Let's drop columns "center_id" and "meal_id" as they are not required for the further process. Display the changes of trainfinal table using head().

```
In [110]: trainfinal = trainfinal.drop(['center_id', 'meal_id'], axis=1)
trainfinal.head()
```

```
Out[110]:
```

| | id | week | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders | category | cuisine | city_code | region_code | center_type |
|---|---------|------|----------------|------------|-----------------------|-------------------|------------|-----------|---------|-----------|-------------|-------------|
| 0 | 1379560 | 1 | 136.83 | 152.29 | 0 | 0 | 177 | Beverages | Thai | 647 | 56 | TYPE_C |
| 1 | 1018704 | 2 | 135.83 | 152.29 | 0 | 0 | 323 | Beverages | Thai | 647 | 56 | TYPE_C |
| 2 | 1196273 | 3 | 132.92 | 133.92 | 0 | 0 | 96 | Beverages | Thai | 647 | 56 | TYPE_C |
| 3 | 1116527 | 4 | 135.86 | 134.86 | 0 | 0 | 163 | Beverages | Thai | 647 | 56 | TYPE_C |
| 4 | 1343872 | 5 | 146.50 | 147.50 | 0 | 0 | 215 | Beverages | Thai | 647 | 56 | TYPE_C |

Display the list of columns present in trainfinal table and store it in variable "cols"

```
In [111]: cols = trainfinal.columns.tolist()
print(cols)
```

```
['id', 'week', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders', 'category', 'cuisine', 'city_code', 'region_code', 'center_type', 'op_area']
```

Rearrange the columns by slicing the columns of "cols" and print "cols"

Rearrange the columns by slicing the columns of "cols" and print "cols"

```
In [112]: cols = cols[:2] + cols[9:] + cols[7:9] + cols[2:7]
print(cols)
```

```
['id', 'week', 'city_code', 'region_code', 'center_type', 'op_area', 'category', 'cuisine', 'checkout_price', 'base_price', 'em
ailer_for_promotion', 'homepage_featured', 'num_orders']
```

Store the changes of columns in trainfinal and display the datatypes of trainfinal using trainfinal.dtypes. Here, we can see that, we not only have numerical data but we also have object data.

```
In [113]: trainfinal = trainfinal[cols]
trainfinal.head()
```

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id          int64
week          int64
```

```
In [113]: trainfinal = trainfinal[cols]
trainfinal.head()
```

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id          int64
week          int64
city_code     int64
region_code   int64
center_type   object
op_area       float64
category      object
cuisine       object
checkout_price float64
base_price     float64
emailer_for_promotion int64
homepage_featured int64
num_orders     int64
dtype: object
```

Team Member 2

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Dropping Columns

Let's drop columns "center_id" and "meal_id" as they are not required for the further process. Display the changes of trainfinal table using head().

```
In [110]: trainfinal = trainfinal.drop(['center_id', 'meal_id'], axis=1)
trainfinal.head()
```

```
Out[110]:
```

| | id | week | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders | category | cuisine | city_code | region_code | center_type |
|---|---------|------|----------------|------------|-----------------------|-------------------|------------|-----------|---------|-----------|-------------|-------------|
| 0 | 1379560 | 1 | 136.83 | 152.29 | 0 | 0 | 177 | Beverages | Thai | 647 | 56 | TYPE_C |
| 1 | 1018704 | 2 | 135.83 | 152.29 | 0 | 0 | 323 | Beverages | Thai | 647 | 56 | TYPE_C |
| 2 | 1196273 | 3 | 132.92 | 133.92 | 0 | 0 | 96 | Beverages | Thai | 647 | 56 | TYPE_C |
| 3 | 1116527 | 4 | 135.86 | 134.86 | 0 | 0 | 163 | Beverages | Thai | 647 | 56 | TYPE_C |
| 4 | 1343872 | 5 | 146.50 | 147.50 | 0 | 0 | 215 | Beverages | Thai | 647 | 56 | TYPE_C |

Display the list of columns present in trainfinal table and store it in variable "cols"

```
In [111]: cols = trainfinal.columns.tolist()
print(cols)
```

```
['id', 'week', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders', 'category', 'cuisine', 'city_code', 'region_code', 'center_type', 'op_area']
```

Rearrange the columns by slicing the columns of "cols" and print "cols"

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Rearrange the columns by slicing the columns of "cols" and print "cols"

```
In [112]: cols = cols[:2] + cols[9:] + cols[7:9] + cols[2:7]
print(cols)
```

```
['id', 'week', 'city_code', 'region_code', 'center_type', 'op_area', 'category', 'cuisine', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders']
```

Store the changes of columns in trainfinal and display the datatypes of trainfinal using trainfinal.dtypes. Here, we can see that, we not only have numerical data but we also have object data.

```
In [113]: trainfinal = trainfinal[cols]
trainfinal.head()
```

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | 0 |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | 0 |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | 0 |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | 0 |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | 0 |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id          int64
          week      int64
```

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trainfinal.head()

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
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| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

In [114]: trainfinal.dtypes

```
Out[114]:
```

| | |
|-----------------------|---------|
| id | int64 |
| week | int64 |
| city_code | int64 |
| region_code | int64 |
| center_type | object |
| op_area | float64 |
| category | object |
| cuisine | object |
| checkout_price | float64 |
| base_price | float64 |
| emailer_for_promotion | int64 |
| homepage_featured | int64 |
| num_orders | int64 |
| dtype: | object |

Team Member 3

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Dropping Columns

Let's drop columns "center_id" and "meal_id" as they are not required for the further process. Display the changes of trainfinal table using head().

```
In [110]: trainfinal = trainfinal.drop(['center_id', 'meal_id'], axis=1)
trainfinal.head()
```

```
Out[110]:
```

| | id | week | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders | category | cuisine | city_code | region_code | center_type |
|---|---------|------|----------------|------------|-----------------------|-------------------|------------|-----------|---------|-----------|-------------|-------------|
| 0 | 1379560 | 1 | 136.83 | 152.29 | 0 | 0 | 177 | Beverages | Thai | 647 | 56 | TYPE_C |
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| 2 | 1196273 | 3 | 132.92 | 133.92 | 0 | 0 | 96 | Beverages | Thai | 647 | 56 | TYPE_C |
| 3 | 1116527 | 4 | 135.86 | 134.86 | 0 | 0 | 163 | Beverages | Thai | 647 | 56 | TYPE_C |
| 4 | 1343872 | 5 | 146.50 | 147.50 | 0 | 0 | 215 | Beverages | Thai | 647 | 56 | TYPE_C |

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```
In [111]: cols = trainfinal.columns.tolist()
print(cols)
```

```
['id', 'week', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders', 'category', 'cuisine', 'city_code', 'region_code', 'center_type', 'op_area']
```

Rearrange the columns by slicing the columns of "cols" and print "cols"

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Run Code

Rearrange the columns by slicing the columns of "cols" and print "cols"

```
In [112]: cols = cols[:2] + cols[9:] + cols[7:9] + cols[2:7]
print(cols)
```

['id', 'week', 'city_code', 'region_code', 'center_type', 'op_area', 'category', 'cuisine', 'checkout_price', 'base_price', 'emailer_for_promotion', 'homepage_featured', 'num_orders']

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```
In [113]: trainfinal = trainfinal[cols]
trainfinal.head()
```

```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
| 2 | 1196273 | 3 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 132.92 | 133.92 | 0 | 0 | |
| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id                int64
```

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```
Out[113]:
```

| | id | week | city_code | region_code | center_type | op_area | category | cuisine | checkout_price | base_price | emailer_for_promotion | homepage_featured | num_orders |
|---|---------|------|-----------|-------------|-------------|---------|-----------|---------|----------------|------------|-----------------------|-------------------|------------|
| 0 | 1379560 | 1 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 136.83 | 152.29 | 0 | 0 | |
| 1 | 1018704 | 2 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.83 | 152.29 | 0 | 0 | |
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| 3 | 1116527 | 4 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 135.86 | 134.86 | 0 | 0 | |
| 4 | 1343872 | 5 | 647 | 56 | TYPE_C | 2.0 | Beverages | Thai | 146.50 | 147.50 | 0 | 0 | |

```
In [114]: trainfinal.dtypes
```

```
Out[114]: id                int64
week                int64
city_code           int64
region_code         int64
center_type         object
op_area             float64
category            object
cuisine             object
checkout_price       float64
base_price           float64
emailer_for_promotion int64
homepage_featured    int64
num_orders          int64
dtype: object
```