DEMAND_orr

April 6, 2024

[22]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
import sklearn
from sklearn.model_selection import train_test_split
import warnings
warnings.filterwarnings("ignore")
```

[3]:
```
train1=pd.read_csv("/home/lenovo/Downloads/Documents/new/train.csv")
meal=pd.read_csv("/home/lenovo/Downloads/Documents/new/meal_info.csv")
fu=pd.read_csv("/home/lenovo/Downloads/Documents/new/fulfilment_center_info.
 ↪csv")
```

[4]:
```
meal.head()
```

[4]:

	meal_id	category	cuisine
0	1885	Beverages	Thai
1	1993	Beverages	Thai
2	2539	Beverages	Thai
3	1248	Beverages	Indian
4	2631	Beverages	Indian

[5]:
```
fu.head()
```

[5]:

	center_id	city_code	region_code	center_type	op_area
0	11	679	56	TYPE_A	3.7
1	13	590	56	TYPE_B	6.7
2	124	590	56	TYPE_C	4.0
3	66	648	34	TYPE_A	4.1
4	94	632	34	TYPE_C	3.6

[6]:
```
train1.head()
```

[6]:

	id	week	center_id	meal_id	checkout_price	base_price	\
0	1379560	1	55	1885	136.83	152.29	

```
1  1466964     1          55     1993          136.83      135.83
2  1346989     1          55     2539          134.86      135.86
3  1338232     1          55     2139          339.50      437.53
4  1448490     1          55     2631          243.50      242.50

   emailer_for_promotion  homepage_featured  num_orders
0                      0                  0         177
1                      0                  0         270
2                      0                  0         189
3                      0                  0          54
4                      0                  0          40
```

[7]:
```
train1.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 456548 entries, 0 to 456547
Data columns (total 9 columns):
 #   Column                 Non-Null Count   Dtype
---  ------                 --------------   -----
 0   id                     456548 non-null  int64
 1   week                   456548 non-null  int64
 2   center_id              456548 non-null  int64
 3   meal_id                456548 non-null  int64
 4   checkout_price         456548 non-null  float64
 5   base_price             456548 non-null  float64
 6   emailer_for_promotion  456548 non-null  int64
 7   homepage_featured      456548 non-null  int64
 8   num_orders             456548 non-null  int64
dtypes: float64(2), int64(7)
memory usage: 31.3 MB
```

[8]:
```
trainfinal=pd.merge(train1,meal,on="meal_id",how="outer")
trainfinal
```

[8]:
```
             id  week  center_id  meal_id  checkout_price  base_price  \
0       1379560     1         55     1885          136.83      152.29
1       1040403     1         24     1885          136.83      136.83
2       1103215     1         11     1885          136.83      136.83
3       1034383     1         83     1885          121.31      120.31
4       1118999     1         32     1885          114.52      113.52
…         …   …       …       …              …         …
456543  1458599   145         65     2104          582.03      582.03
456544  1417199   145        110     2104          582.03      581.03
456545  1434028   145         68     2104          582.03      581.03
456546  1205895   145         51     2104          641.23      640.23
456547  1443704   145         61     2104          581.03      582.03
```

```
        emailer_for_promotion  homepage_featured  num_orders   category  \
0                           0                  0         177  Beverages
1                           0                  0        1498  Beverages
2                           0                  0         959  Beverages
3                           0                  1        1025  Beverages
4                           0                  1         445  Beverages
…                         …                  …         …         …
456543                      0                  0         134       Fish
456544                      0                  0          28       Fish
456545                      0                  0          40       Fish
456546                      0                  0          69       Fish
456547                      0                  0          27       Fish

            cuisine
0              Thai
1              Thai
2              Thai
3              Thai
4              Thai
…               …
456543    Continental
456544    Continental
456545    Continental
456546    Continental
456547    Continental

[456548 rows x 11 columns]
```

[9]:
```
trainfinal1=pd.merge(trainfinal,fu,on="center_id",how="outer")
trainfinal1
```

[9]:
```
             id  week  center_id  meal_id  checkout_price  base_price  \
0       1379560     1         55     1885          136.83      152.29
1       1018704     2         55     1885          135.83      152.29
2       1196273     3         55     1885          132.92      133.92
3       1116527     4         55     1885          135.86      134.86
4       1343872     5         55     1885          146.50      147.50
…         …   …         …       …                 …         …
456543  1437396   141         61     2104          583.03      630.53
456544  1060716   142         61     2104          581.03      582.03
456545  1029231   143         61     2104          583.03      581.03
456546  1141147   144         61     2104          582.03      581.03
456547  1443704   145         61     2104          581.03      582.03

        emailer_for_promotion  homepage_featured  num_orders   category  \
0                           0                  0         177  Beverages
1                           0                  0         323  Beverages
```

```
2                          0                 0          96  Beverages
3                          0                 0         163  Beverages
4                          0                 0         215  Beverages
…                        …                 …         …          …
456543                     0                 1          13       Fish
456544                     0                 0          42       Fish
456545                     0                 0          40       Fish
456546                     0                 0          53       Fish
456547                     0                 0          27       Fish

            cuisine  city_code  region_code center_type  op_area
0              Thai        647           56      TYPE_C      2.0
1              Thai        647           56      TYPE_C      2.0
2              Thai        647           56      TYPE_C      2.0
3              Thai        647           56      TYPE_C      2.0
4              Thai        647           56      TYPE_C      2.0
…               …          …             …          …        …
456543  Continental        473           77      TYPE_A      4.5
456544  Continental        473           77      TYPE_A      4.5
456545  Continental        473           77      TYPE_A      4.5
456546  Continental        473           77      TYPE_A      4.5
456547  Continental        473           77      TYPE_A      4.5

[456548 rows x 15 columns]
```

[10]:
```
from sklearn.preprocessing import LabelEncoder
lb1=LabelEncoder()
trainfinal1['category']=lb1.fit_transform(trainfinal1['category'])
trainfinal1['cuisine']=lb1.fit_transform(trainfinal1['cuisine'])
trainfinal1['center_type']=lb1.fit_transform(trainfinal1['center_type'])
trainfinal1
```

[10]:
```
             id  week  center_id  meal_id  checkout_price  base_price  \
0       1379560     1         55     1885          136.83      152.29
1       1018704     2         55     1885          135.83      152.29
2       1196273     3         55     1885          132.92      133.92
3       1116527     4         55     1885          135.86      134.86
4       1343872     5         55     1885          146.50      147.50
…         …   …         …       …                …          …
456543  1437396   141         61     2104          583.03      630.53
456544  1060716   142         61     2104          581.03      582.03
456545  1029231   143         61     2104          583.03      581.03
456546  1141147   144         61     2104          582.03      581.03
456547  1443704   145         61     2104          581.03      582.03

        emailer_for_promotion  homepage_featured  num_orders  category  \
0                           0                  0         177         0
```

```
1                          0                  0         323          0
2                          0                  0          96          0
3                          0                  0         163          0
4                          0                  0         215          0
…                        …                  …         …          …
456543                     0                  1          13          4
456544                     0                  0          42          4
456545                     0                  0          40          4
456546                     0                  0          53          4
456547                     0                  0          27          4

        cuisine  city_code  region_code  center_type  op_area
0             3        647           56            2      2.0
1             3        647           56            2      2.0
2             3        647           56            2      2.0
3             3        647           56            2      2.0
4             3        647           56            2      2.0
…           …        …           …           …       …
456543        0        473           77            0      4.5
456544        0        473           77            0      4.5
456545        0        473           77            0      4.5
456546        0        473           77            0      4.5
456547        0        473           77            0      4.5

[456548 rows x 15 columns]
```

[11]:
```
trainfinal1=trainfinal1.drop(["op_area"],axis=1)
trainfinal1
```

[11]:
```
             id  week  center_id  meal_id  checkout_price  base_price  \
0       1379560     1         55     1885          136.83      152.29
1       1018704     2         55     1885          135.83      152.29
2       1196273     3         55     1885          132.92      133.92
3       1116527     4         55     1885          135.86      134.86
4       1343872     5         55     1885          146.50      147.50
…         …   …        …       …               …         …
456543  1437396   141         61     2104          583.03      630.53
456544  1060716   142         61     2104          581.03      582.03
456545  1029231   143         61     2104          583.03      581.03
456546  1141147   144         61     2104          582.03      581.03
456547  1443704   145         61     2104          581.03      582.03

        emailer_for_promotion  homepage_featured  num_orders  category  \
0                           0                  0         177         0
1                           0                  0         323         0
2                           0                  0          96         0
3                           0                  0         163         0
```

```
4                          0                 0         215         0
…                        …                 …         …         …
456543                     0                 1          13         4
456544                     0                 0          42         4
456545                     0                 0          40         4
456546                     0                 0          53         4
456547                     0                 0          27         4

        cuisine  city_code  region_code  center_type
0             3        647           56            2
1             3        647           56            2
2             3        647           56            2
3             3        647           56            2
4             3        647           56            2
…           …        …           …           …
456543        0        473           77            0
456544        0        473           77            0
456545        0        473           77            0
456546        0        473           77            0
456547        0        473           77            0

[456548 rows x 14 columns]
```

[12]:
```
trainfinal1=trainfinal1.drop(["center_id","meal_id"],axis=1)
```

[13]:
```
trainfinal1.dropna()
```

[13]:
```
             id  week  checkout_price  base_price  emailer_for_promotion  \
0       1379560     1          136.83      152.29                      0
1       1018704     2          135.83      152.29                      0
2       1196273     3          132.92      133.92                      0
3       1116527     4          135.86      134.86                      0
4       1343872     5          146.50      147.50                      0
…         …   …             …         …                    …
456543  1437396   141          583.03      630.53                      0
456544  1060716   142          581.03      582.03                      0
456545  1029231   143          583.03      581.03                      0
456546  1141147   144          582.03      581.03                      0
456547  1443704   145          581.03      582.03                      0

        homepage_featured  num_orders  category  cuisine  city_code  \
0                       0         177         0        3        647
1                       0         323         0        3        647
2                       0          96         0        3        647
3                       0         163         0        3        647
4                       0         215         0        3        647
…                     …         …       …       …        …
```

```
456543                 1          13         4         0        473
456544                 0          42         4         0        473
456545                 0          40         4         0        473
456546                 0          53         4         0        473
456547                 0          27         4         0        473

        region_code  center_type
0                56            2
1                56            2
2                56            2
3                56            2
4                56            2
…               …            …
456543           77            0
456544           77            0
456545           77            0
456546           77            0
456547           77            0

[456548 rows x 12 columns]
```

[14]:
```
trainfinal1.isnull().sum()
```

[14]:
```
id                     0
week                   0
checkout_price         0
base_price             0
emailer_for_promotion  0
homepage_featured      0
num_orders             0
category               0
cuisine                0
city_code              0
region_code            0
center_type            0
dtype: int64
```

[15]:
```
print(trainfinal1.info())
print(trainfinal1.describe())
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 456548 entries, 0 to 456547
Data columns (total 12 columns):
 #   Column                Non-Null Count   Dtype
---  ------                --------------   -----
 0   id                    456548 non-null  int64
 1   week                  456548 non-null  int64
```

```
 2   checkout_price         456548 non-null  float64
 3   base_price             456548 non-null  float64
 4   emailer_for_promotion  456548 non-null  int64
 5   homepage_featured      456548 non-null  int64
 6   num_orders             456548 non-null  int64
 7   category               456548 non-null  int64
 8   cuisine                456548 non-null  int64
 9   city_code              456548 non-null  int64
 10  region_code            456548 non-null  int64
 11  center_type            456548 non-null  int64
dtypes: float64(2), int64(10)
memory usage: 41.8 MB
None
                id           week  checkout_price     base_price  \
count  4.565480e+05  456548.000000   456548.000000  456548.000000
mean   1.250096e+06      74.768771      332.238933     354.156627
std    1.443548e+05      41.524956      152.939723     160.715914
min    1.000000e+06       1.000000        2.970000      55.350000
25%    1.124999e+06      39.000000      228.950000     243.500000
50%    1.250184e+06      76.000000      296.820000     310.460000
75%    1.375140e+06     111.000000      445.230000     458.870000
max    1.499999e+06     145.000000      866.270000     866.270000

       emailer_for_promotion  homepage_featured     num_orders       category  \
count          456548.000000       456548.00000  456548.000000  456548.000000
mean                0.081152            0.10920     261.872760       5.257443
std                 0.273069            0.31189     395.922798       4.459965
min                 0.000000            0.00000      13.000000       0.000000
25%                 0.000000            0.00000      54.000000       0.000000
50%                 0.000000            0.00000     136.000000       5.000000
75%                 0.000000            0.00000     324.000000       9.000000
max                 1.000000            1.00000   24299.000000      13.000000

             cuisine      city_code    region_code    center_type
count  456548.000000  456548.000000  456548.000000  456548.000000
mean        1.561961     601.553399      56.614566       0.642342
std         1.101974      66.195914      17.641306       0.816105
min         0.000000     456.000000      23.000000       0.000000
25%         1.000000     553.000000      34.000000       0.000000
50%         2.000000     596.000000      56.000000       0.000000
75%         3.000000     651.000000      77.000000       1.000000
max         3.000000     713.000000      93.000000       2.000000
```

[16]:
```
trainfinal1.shape
```

[16]: (456548, 12)

[17]:
```
#DATA Analysis
```

[18]:
```
promoapplied=[1]
promodf=trainfinal1.loc[trainfinal1['emailer_for_promotion'].isin(promoapplied)]
print('Promotion Voutcher Meal Count:', promodf['id'].count())
print('Overall Orders for promotional orders:' ,promodf['num_orders'].sum())
```

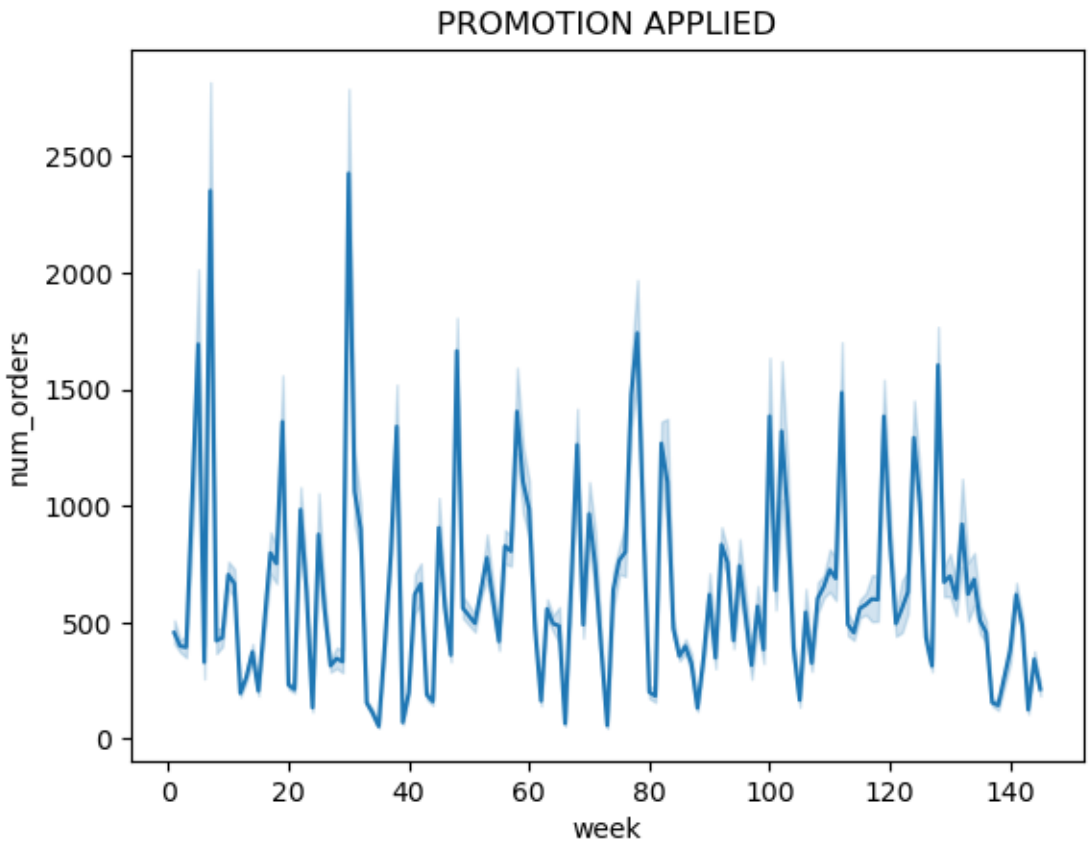
```
Promotion Voutcher Meal Count: 37050
Overall Orders for promotional orders: 23382164
```

[19]:
```
hromoapplied=[1]
hromodf=trainfinal1.loc[trainfinal1['homepage_featured'].isin(promoapplied)]
print('Promotion Voutcher Meal Count:', promodf['id'].count())
print('Overall Orders for promotional orders:' ,promodf['num_orders'].sum())
```

```
Promotion Voutcher Meal Count: 37050
Overall Orders for promotional orders: 23382164
```

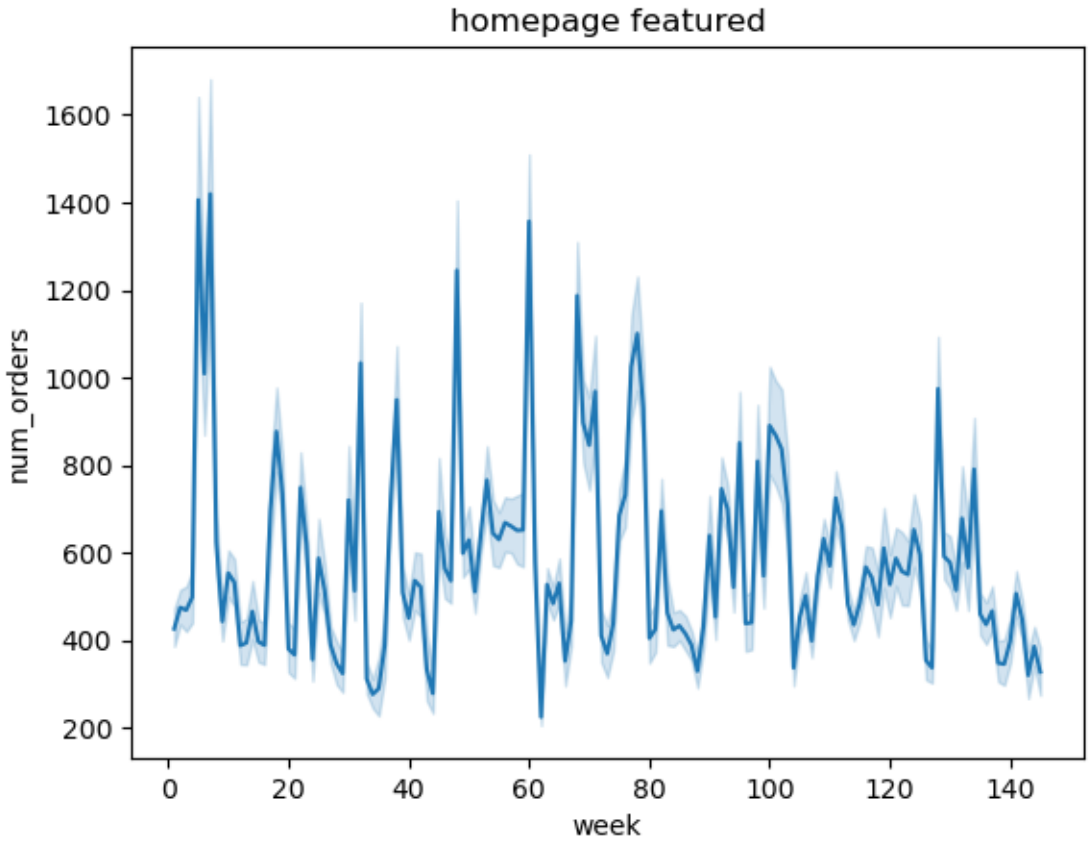
[23]:
```
df=promodf
fig=sns.lineplot(df,x='week',y='num_orders').set(title='PROMOTION APPLIED')
fig
```

[23]:
```
[Text(0.5, 1.0, 'PROMOTION APPLIED')]
```



[24]:
```
df1=hromodf
fig=sns.lineplot(df1,x='week',y='num_orders').set(title='homepage featured')
fig
```

[24]:
```
[Text(0.5, 1.0, 'homepage featured')]
```



[25]:
```
#SPLIT DATA
```

[26]:
```
trainfinal1
```

[26]:

	id	week	checkout_price	base_price	emailer_for_promotion	\
0	1379560	1	136.83	152.29	0	
1	1018704	2	135.83	152.29	0	
2	1196273	3	132.92	133.92	0	
3	1116527	4	135.86	134.86	0	
4	1343872	5	146.50	147.50	0	
…	…	…	…	…	…	

```
456543  1437396   141          583.03      630.53                    0
456544  1060716   142          581.03      582.03                    0
456545  1029231   143          583.03      581.03                    0
456546  1141147   144          582.03      581.03                    0
456547  1443704   145          581.03      582.03                    0

        homepage_featured  num_orders  category  cuisine  city_code  \
0                       0         177         0        3        647
1                       0         323         0        3        647
2                       0          96         0        3        647
3                       0         163         0        3        647
4                       0         215         0        3        647
…                     …           …         …        …        …
456543                  1          13         4        0        473
456544                  0          42         4        0        473
456545                  0          40         4        0        473
456546                  0          53         4        0        473
456547                  0          27         4        0        473

        region_code  center_type
0                56            2
1                56            2
2                56            2
3                56            2
4                56            2
…              …           …
456543           77            0
456544           77            0
456545           77            0
456546           77            0
456547           77            0

[456548 rows x 12 columns]
```

[27]:
```
x=trainfinal1.drop(['num_orders'],axis=1)
y=trainfinal1['num_orders']
```

[28]:
```
from sklearn.model_selection import train_test_split

# Assuming 'x' contains the features and 'y' contains the target variable
# 'test_size=0.20' specifies that 20% of the data will be used for testing, and␣
 ↪80% for training
# 'random_state=0' sets the random seed to ensure reproducibility
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.20,␣
 ↪random_state=0)
```

[29]:
```
x_train
```

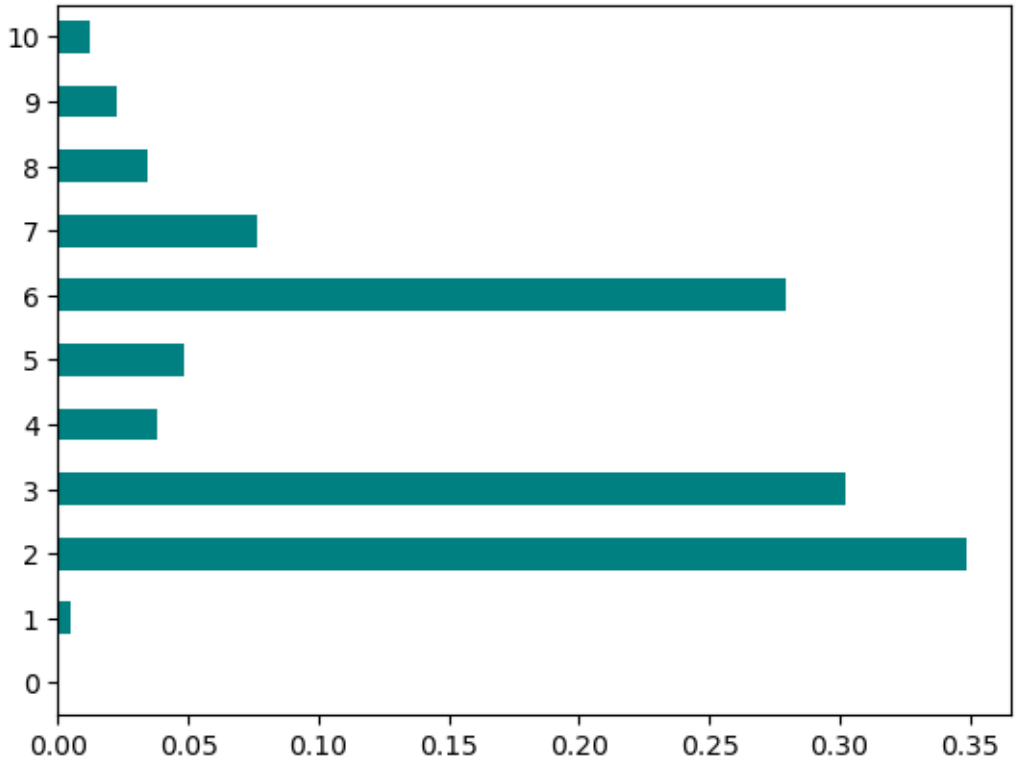
[29]:
```
             id  week  checkout_price  base_price  emailer_for_promotion  \
141016  1325459   105          581.03      582.03                      0
406574  1485641   125          320.13      320.13                      0
189872  1339897    56          534.53      533.53                      0
323934  1006827    23          326.89      327.89                      0
142275  1357504    40          323.98      324.98                      0
…         …    …             …          …                     …
152315  1212361    87          485.03      485.03                      0
439107  1338177   142          221.22      220.22                      0
117952  1186492    23          341.50      408.43                      0
435829  1436388   144          321.13      321.13                      0
305711  1243490    82          309.49      308.49                      0

        homepage_featured  category  cuisine  city_code  region_code  \
141016                  0         4        0        522           56
406574                  0         5        3        526           34
189872                  0         6        2        713           85
323934                  0         9        2        526           34
142275                  0         0        0        615           34
…                     …       …        …          …          …
152315                  0         1        1        590           56
439107                  0         0        2        676           34
117952                  1         6        2        596           71
435829                  0         5        3        699           85
305711                  0         0        1        638           56

        center_type
141016            0
406574            2
189872            0
323934            2
142275            1
…               …
152315            0
439107            1
117952            0
435829            2
305711            1

[365238 rows x 11 columns]
```

[30]:
```
from sklearn.feature_selection import mutual_info_classif
%matplotlib inline
imp=mutual_info_classif(x_train,y_train)
imp
```

[30]:
```
array([0.        , 0.004913  , 0.34859344, 0.30248776, 0.037814  ,
       0.04827926, 0.27964634, 0.07668279, 0.03469004, 0.02268267,
       0.01255353])
```

[31]:
```
futureim=pd.Series(imp)
futureim.plot(kind='barh',color="teal")
```

[31]:
```
<Axes: >
```



[32]:
```
from sklearn.linear_model import LinearRegression
from sklearn.ensemble import RandomForestRegressor
from sklearn.tree import DecisionTreeRegressor
model=LinearRegression()
model2=RandomForestRegressor(max_depth=3,random_state=0)
model3=DecisionTreeRegressor(max_depth=3,random_state=0)
```

[33]:
```
model.fit(x_train,y_train)
```

[33]:
```
LinearRegression()
```

[34]:
```
li=model.predict(x_test)
li
```

[34]:
```
array([289.60194036, 243.5403869 , 388.72269403, …, 257.96884317,
       -4.40359529, 288.94314784])
```

[35]:
```
from sklearn.metrics import r2_score, mean_squared_error
from math import sqrt
print('R2 Score:' ,r2_score(y_test,li))
print('Mean Square Error :',mean_squared_error(y_test,li))
print('RMSE :',sqrt(mean_squared_error(y_test,li)))
```

```
R2 Score: 0.21950351705753968
Mean Square Error : 123586.56533992218
RMSE : 351.5488093279825
```

[36]:
```
model2.fit(x_train,y_train)
```

[36]:
```
RandomForestRegressor(max_depth=3, random_state=0)
```

[37]:
```
ri=model2.predict(x_test)
ri
```

[37]:
```
array([124.63783825, 163.67333426, 319.51315838, …, 319.51315838,
       163.67333426, 317.98077467])
```

[38]:
```
print('R2 Score:' ,r2_score(y_test,ri))
print('Mean Square Error :',mean_squared_error(y_test,ri))
print('RMSE :',sqrt(mean_squared_error(y_test,ri)))
```

```
R2 Score: 0.2659522976483112
Mean Square Error : 116231.70163086394
RMSE : 340.92770733817446
```

[39]:
```
model3.fit(x_train, y_train)
```

[39]:
```
DecisionTreeRegressor(max_depth=3, random_state=0)
```

[40]:
```
vi=model3.predict(x_test)
vi
```

[40]:
```
array([124.69017341, 163.71525952, 319.60183796, …, 319.60183796,
       163.71525952, 319.60183796])
```

[41]:
```
print('R2 Score:' ,r2_score(y_test,ri))
print('Mean Square Error :',mean_squared_error(y_test,ri))
print('RMSE :',sqrt(mean_squared_error(y_test,ri)))
```

```
R2 Score: 0.2659522976483112
Mean Square Error : 116231.70163086394
RMSE : 340.92770733817446
```

[42]:
```
print(x_train)
print(y_train)
print(x_test)
```

```
            id  week  checkout_price  base_price  emailer_for_promotion  \
141016  1325459   105          581.03      582.03                      0
406574  1485641   125          320.13      320.13                      0
189872  1339897    56          534.53      533.53                      0
323934  1006827    23          326.89      327.89                      0
142275  1357504    40          323.98      324.98                      0
…         …    …              …          …                       …
152315  1212361    87          485.03      485.03                      0
439107  1338177   142          221.22      220.22                      0
117952  1186492    23          341.50      408.43                      0
435829  1436388   144          321.13      321.13                      0
305711  1243490    82          309.49      308.49                      0

        homepage_featured  category  cuisine  city_code  region_code  \
141016                  0         4        0        522           56
406574                  0         5        3        526           34
189872                  0         6        2        713           85
323934                  0         9        2        526           34
142275                  0         0        0        615           34
…                     …       …       …          …          …
152315                  0         1        1        590           56
439107                  0         0        2        676           34
117952                  1         6        2        596           71
435829                  0         5        3        699           85
305711                  0         0        1        638           56

        center_type
141016            0
406574            2
189872            0
323934            2
142275            1
…               …
152315            0
439107            1
117952            0
435829            2
305711            1

[365238 rows x 11 columns]
141016    40
406574    42
189872    26
```

```
323934    323
142275     14
          …
152315     42
439107    352
117952     55
435829     28
305711     68
Name: num_orders, Length: 365238, dtype: int64
             id  week  checkout_price  base_price  emailer_for_promotion  \
242838  1365542    61          281.33      280.33                      0
314826  1495000   133          377.33      377.33                      0
57041   1327310    62          262.93      260.93                      0
87123   1324739    49          620.86      620.86                      0
154611  1010902    41          165.87      167.87                      0
…         …   …              …          …                    …
231834  1123843   130          336.62      336.62                      0
161380  1339156     7          319.13      320.13                      0
173848  1113658    71          280.36      281.36                      0
243709  1478282    31          640.23      640.23                      0
82834   1457273    63          279.36      361.81                      0

        homepage_featured  category  cuisine  city_code  region_code  \
242838                  0        13        3        658           34
314826                  0        10        2        700           56
57041                   0         8        1        649           34
87123                   0        11        0        590           56
154611                  0         0        2        526           34
…                     …       …       …         …          …
231834                  0         6        2        590           56
161380                  0        10        2        577           56
173848                  0        10        2        526           34
243709                  0         7        0        658           34
82834                   0         9        2        703           56

        center_type
242838            1
314826            0
57041             0
87123             2
154611            2
…               …
231834            0
161380            0
173848            2
243709            1
82834             0
```

```
[91310 rows x 11 columns]
```

[43]:
```
print(y_test)
```

```
242838    310
314826    593
57041     175
87123      53
154611     95
          …
231834     28
161380     95
173848    122
243709     55
82834     541
Name: num_orders, Length: 91310, dtype: int64
```

[44]:
```
print(ri)
```

```
[124.63783825 163.67333426 319.51315838 … 319.51315838 163.67333426
 317.98077467]
```

[45]:
```
from sklearn.ensemble import GradientBoostingRegressor
```

[46]:
```
gbm=GradientBoostingRegressor(n_estimators=500, learning_rate=0.1, max_depth=3,␣
↪random_state=42)
```

[47]:
```
gbm.fit(x_train,y_train)
```

[47]:
```
GradientBoostingRegressor(n_estimators=500, random_state=42)
```

[49]:
```
hi=gbm.predict(x_test)
hi
```

[49]:
```
array([119.29089357, 420.08936444, 503.14927439, …, 399.79509758,
        84.57086285, 331.86973118])
```

[50]:
```
print('R2 Score:' ,r2_score(y_test,hi))
print('Mean Square Error :',mean_squared_error(y_test,hi))
print('RMSE :',sqrt(mean_squared_error(y_test,hi)))
```

```
R2 Score: 0.6513140100616891
Mean Square Error : 55212.169203078134
RMSE : 234.9726988462237
```

[51]:
```
new=pd.read_csv("/home/lenovo/Downloads/test_QoiMO9B.csv")
new
```

[51]:

	id	week	center_id	meal_id	checkout_price	base_price	\
0	1028232	146	55	1885	158.11	159.11	
1	1127204	146	55	1993	160.11	159.11	
2	1212707	146	55	2539	157.14	159.14	
3	1082698	146	55	2631	162.02	162.02	
4	1400926	146	55	1248	163.93	163.93	
…	…	…	…	…	…	…	
32568	1250239	155	61	1543	482.09	484.09	
32569	1039516	155	61	2304	483.09	483.09	
32570	1158107	155	61	2664	322.07	323.07	
32571	1444235	155	61	2569	322.07	323.07	
32572	1291286	155	61	2490	276.45	276.45	

	emailer_for_promotion	homepage_featured
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
…	…	…
32568	0	0
32569	0	0
32570	0	0
32571	0	0
32572	0	0

[32573 rows x 8 columns]