source

March 15, 2024

```
SETUP
```

```
[]: !apt-get install openjdk-8-jdk-headless -qq > /dev/null
     !wget -q http://archive.apache.org/dist/spark/spark-3.1.1/spark-3.1.
      ⇔1-bin-hadoop3.2.tgz
     !cp /content/drive/MyDrive/spark-3.1.1-bin-hadoop3.2.tgz .
     !tar xf spark-3.1.1-bin-hadoop3.2.tgz
     !pip install -q findspark
[]: import os
     os.environ["JAVA_HOME"] = "/usr/lib/jvm/java-8-openjdk-amd64"
     os.environ["SPARK_HOME"] = "/content/spark-3.1.1-bin-hadoop3.2"
[]: from google.colab import drive
     drive.mount('/content/drive')
    Mounted at /content/drive
[]: import findspark
     findspark.init()
[]: import pyspark as spark
     print(spark.__version__)
    3.1.1
[]: #Library ex1
     from pyspark import SparkContext
     from pyspark.sql import SparkSession
     import matplotlib.pyplot as plt
     import csv
     import os
     sc = SparkContext.getOrCreate()
     spark = SparkSession(sc)
[]: #Library ex2
     from pyspark.sql import SparkSession
```

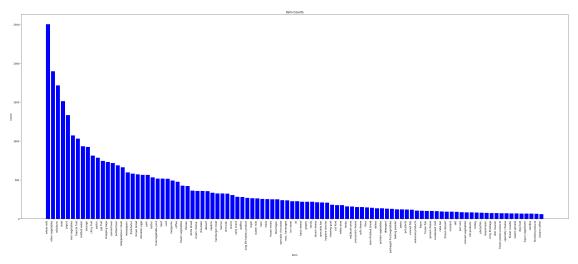
```
from pyspark.sql.types import *
from datetime import date
import matplotlib.pyplot as plt
from pyspark.sql.functions import *
from pyspark.sql import functions as F
import os
import shutil
import pandas as pd
from pyspark.sql import SQLContext
```

Ex1

```
[]: def f1(file_csv):
       #Doc file csv bằng hàm rdd
       rdd = sc.textFile(file_csv)
       header = rdd.first()
       data = rdd.filter(lambda line: line != header).map(lambda line: line.
      ⇔split(','))
       #Lấy data từ sau khi đọc file, lọc trùng(distinct) và sắp xếp(sortBy) theo tên
      distinct items ordered = data.map(lambda x: x[2]).distinct().sortBy(lambda x:___
      ⇔x)
       #Lấy 10 item đầu tiên
      first_10_items = distinct_items_ordered.take(10)
       #Lấy top item cuối cùng, hàm top lấy từ dưới lên nên sẽ phải sắp xếp lai(sort)
       last_10_items = sorted(distinct_items_ordered.top(10))
       ##Hiển thi
       print("First 10 Items Ordered by Name:")
       print('\n'.join(first 10 items))
       print("\nLast 10 Items Ordered by Name:")
      print('\n'.join(last_10_items))
       #Ghi file csv
```

```
output_csv_path = "/content/f1/f1.csv"
       output_directory = "/content/f1/"
       if not os.path.exists(output_directory):
           os.makedirs(output_directory)
       with open(output_csv_path, mode='w', newline='') as file:
           writer = csv.writer(file)
           writer.writerow(['First Item', 'Last Item'])
           for first_item, last_item in zip(first_10_items, last_10_items):
               writer.writerow([first_item, last_item])
     f1("/content/baskets.csv")
    First 10 Items Ordered by Name:
    Instant food products
    UHT-milk
    abrasive cleaner
    artif. sweetener
    baby cosmetics
    bags
    baking powder
    bathroom cleaner
    beef
    berries
    Last 10 Items Ordered by Name:
    turkey
    vinegar
    waffles
    whipped/sour cream
    whisky
    white bread
    white wine
    whole milk
    yogurt
    zwieback
[]: def f2(file_path):
         rdd = sc.textFile(file_path)
         header = rdd.first()
         data = rdd.filter(lambda line: line != header).map(lambda line: line.
      ⇔split(','))
         #Lây item
         item_counts = data.map(lambda x: (x[2], 1)).reduceByKey(lambda a, b: a + b)
         #Sort item theo số lương
         sorted_item_counts = item_counts.sortBy(lambda x: x[1], ascending=False).
      →collect()
```

```
#trích 100 items để vẽ biểu đồ
    item_chart = item_counts.sortBy(lambda x: x[1], ascending=False).take(100)
   items, counts = zip(*item_chart)
    #Tao biểu đồ
   fig, ax = plt.subplots(figsize=(40, 15), dpi=100)
   plt.bar(items, counts, color='blue')
   plt.xlabel('Item')
   plt.ylabel('Count')
   plt.title('Item Counts')
   plt.xticks(rotation=90, ha='right')
   plt.show()
   #Hiên thi
   for item, count in sorted_item_counts:
     print(f"{item}: {count}")
    #Ghi file csv
   output_csv_path = "/content/f2/f2.csv"
   output_directory = "/content/f2/"
   if not os.path.exists(output_directory):
        os.makedirs(output_directory)
   with open(output_csv_path, mode='w', newline='') as file:
       writer = csv.writer(file)
       writer.writerow(['Item', 'Count'])
       for item, count in sorted_item_counts:
            writer.writerow([item, count])
f2("/content/baskets.csv")
```



whole milk: 2502

other vegetables: 1898

rolls/buns: 1716

soda: 1514 yogurt: 1334

root vegetables: 1071 tropical fruit: 1032 bottled water: 933

sausage: 924
citrus fruit: 812

pastry: 785 pip fruit: 744 shopping bags: 731 canned beer: 717 bottled beer: 687

whipped/sour cream: 662

newspapers: 596 frankfurter: 580 brown bread: 571 domestic eggs: 566

pork: 566 butter: 534

fruit/vegetable juice: 518

beef: 516 curd: 514 margarine: 491 coffee: 476

frozen vegetables: 425

chicken: 422
white bread: 362
cream cheese: 358
chocolate: 357
dessert: 356
napkins: 335

hamburger meat: 327

berries: 327 UHT-milk: 323 onions: 305 salty snack: 283 waffles: 280

long life bakery product: 269

sugar: 265

butter milk: 263

ham: 256 meat: 254

frozen meals: 252 beverages: 251

specialty chocolate: 240

misc. beverages: 238

ice cream: 227

oil: 225

hard cheese: 220 grapes: 220 candy: 219

sliced cheese: 212 specialty bar: 210 hygiene articles: 208

chewing gum: 181 cat food: 177 white wine: 176

herbs: 159

red/blush wine: 157 processed cheese: 152

soft cheese: 152

flour: 146

semi-finished bread: 142

dishes: 135

pickled vegetables: 134

detergent: 130

packaged fruit/vegetables: 128

baking powder: 122

pasta: 121
pot plants: 118
canned fish: 116

seasonal products: 106

liquor: 103 frozen fish: 102 spread cheese: 100 condensed milk: 98

cake bar: 93

frozen dessert: 92

mustard: 92
salt: 89
pet care: 85

canned vegetables: 82 roll products : 82

turkey: 80 photo/film: 79 mayonnaise: 75 cling film/bags: 74 dish cleaner: 73

frozen potato products: 72

specialty cheese: 72
flower (seeds): 70
sweet spreads: 69

dog food: 67

liquor (appetizer): 67

candles: 66

finished products: 64 instant coffee: 61

Instant food products: 60
chocolate marshmallow: 60

zwieback: 60 vinegar: 51 liver loaf: 50

rice: 49 soups: 48 popcorn: 48

sparkling wine: 46 curd cheese: 46

house keeping products: 45

sauces: 44
cereals: 42
softener: 41
spices: 40

female sanitary products: 40

brandy: 38

male cosmetics: 37
meat spreads: 35

jam: 34

nuts/prunes: 33
dental care: 33

rum: 32
ketchup: 32
cleaner: 31

kitchen towels: 30

fish: 29

specialty fat: 29
light bulbs: 29
artif. sweetener: 29
snack products: 27

tea: 27

potato products: 23

nut snack: 22

organic sausage: 22

tidbits: 22

abrasive cleaner: 22 canned fruit: 21

syrup: 21
soap: 20
skin care: 20
prosecco: 19

bathroom cleaner: 17

cookware: 17

```
pudding powder: 17
    cocoa drinks: 16
    flower soil/fertilizer: 16
    cooking chocolate: 15
    ready soups: 15
    honey: 13
    cream: 12
    specialty vegetables: 11
    frozen fruits: 11
    organic products: 10
    liqueur: 9
    hair spray: 9
    decalcifier: 9
    whisky: 8
    salad dressing: 6
    make up remover: 5
    toilet cleaner: 5
    rubbing alcohol: 5
    frozen chicken: 5
    bags: 4
    baby cosmetics: 3
    preservation products: 1
    kitchen utensil: 1
[]: def f3(file_path):
       rdd = sc.textFile(file_path)
       header = rdd.first()
       data = rdd.filter(lambda line: line != header).map(lambda line: line.
      ⇔split(','))
       #Lấy item cột date + member => nhóm lại thành cart
       member_date = data.map(lambda x: (x[0], x[1]))
       member_cart_counts = member_date.groupByKey().map(lambda x: (x[0],_
      \rightarrowlen(set(x[1]))))
       #sắp xếp items trong cart
       sorted_member_cart_counts = member_cart_counts.sortBy(lambda x: x[1],_
      →ascending=False)
       #Hiển thi
       for member_number, cart_count in sorted_member_cart_counts.collect():
         print(f"{member_number}: {cart_count}")
       #trích 100 items vẽ biểu đồ
       member_numbers, cart_counts = zip(*sorted_member_cart_counts.take(100))
       # Tao biểu đồ
```

```
fig, ax = plt.subplots(figsize=(15, 8), dpi=100)
 plt.bar(member_numbers, cart_counts, color='green')
 plt.xlabel('Member Number')
 plt.ylabel('Cart Count')
 plt.title('Top 100 Member Cart Counts')
 plt.xticks(rotation=90, ha='right')
 plt.show()
  #Ghi file csv
 output_csv_path = "/content/f3/f3.csv"
 output_directory = "/content/f3/"
 if not os.path.exists(output_directory):
      os.makedirs(output_directory)
 with open(output_csv_path, mode='w', newline='') as file:
      writer = csv.writer(file)
      writer.writerow(['Member Number', 'Cart Count'])
      for member_number, cart_count in sorted_member_cart_counts.collect():
          writer.writerow([member_number, cart_count])
f3("/content/baskets.csv")
```

2271: 11 1379: 11 3737: 11 4338: 11 2193: 11 1574: 10 3120: 10 3180: 10 2394: 10 4217: 10 2524: 10 4864: 10 3872: 10 3915: 10 1793: 10 4376: 10 1052: 10 1275: 10 1908: 10 3289: 10 3484: 10 3082: 10 3248: 10 1410: 10 3593: 10

4933: 9

3830: 9

1169: 9

3361: 9

2851: 9

3221: 9

4303: 9

1000.

1566: 9

2164: 9

4683: 9

1136: 9

2517: 9

3050: 9

2990: 9

1991: 9

4272: 9

3402: 9

4137: 9

1922: 9

4364: 9

2760: 9

1827: 9

3462: 9

2294: 9

2663: 9

3090: 9

3465: 9

4494: 9

2440: 9

2758: 9

1905: 9

1878: 9

4656: 9

1932: 9

1998: 9

4941: 9

1087: 9

1466: 9

2960: 9

4437: 9

2070: 9

3122: 9

3308: 9

1654: 9

2632: 9

4190: 9

3942: 8

1248: 8

4721: 8

4694: 8

1235: 8

1889: 8

4453: 8

1013: 8

2011: 8

2718: 8

3663: 8

4297: 8

2868: 8

4645: 8

2298: 8

3137: 8

2511: 8

2706: 8

3517: 8

3812: 8

3657: 8

4667: 8

4875: 8

2014: 8

1190: 8

4019: 8

3793: 8

4455: 8

1979: 8

2229: 8

1094: 8

1870: 8

3761: 8

1004: 8

2051: 8

1483: 8

3246: 8

1798: 8

2855: 8

2816: 8

4406: 8

4671: 8

4464: 8 4852: 8

4316: 8

2584: 8

3499: 8

4387: 8

3495: 8

4165: 8

3549: 8

2293: 8

4187: 8

1327: 8

4524: 8

1107: 8

2184: 8

1395: 8

1711: 8

2918: 8

1116: 8

2645: 8

3855: 8

2799: 8

2946: 8

1659: 7

2925: 7

3284: 7

4745: 7

4799: 7

3864: 7

3189: 7

3232: 7

3957: 7

4104: 7

4206: 7

2738: 7

2746: 7

3054: 7

3595: 7

3732: 7

3410: 7

3084: 7

1465: 7

3139: 7

3268: 7

4679: 7

1384: 7

1237: 7

4314: 7

2835: 7

4779: 7

3309: 7

3184: 7

3583: 7

4548: 7

2215: 7

1777: 7

2045: 7

4015: 7

.

1811: 7

4820: 7

1239: 7

2408: 7

2907: 7

1983: 7

4416: 7

4952: 7

2222: 7

3507: 7

3982: 7

4661: 7

2315: 7

4915: 7

1740: 7

4018: 7

1098: 7

1753: 7

2957: 7

2550: 7

4262: 7

1618: 7

3450: 7

1572: 7

2492: 7 2707: 7

4223: 7

3560: 7

4235: 7

1651: 7

4573: 7

1921: 7

2589: 7

2597: 7

3523: 7

3511: 7

2133: 7

1204: 7

2381: 7

2357: 7

4623: 7

2549: 7

2736: 7

3044: 7

2729: 7

1218: 7

1110: 7

3649: 7

4124: 7

4773: 7

4937: 7

2019: 7 3491: 7

3508: 7

3757: 7 2017: 7

1144: 7

2370: 7

1866: 7

4780: 7

2426: 7

3581: 7

2406: 7

2600: 7

4719: 7

2814: 7

3635: 7

1265: 7

4335: 7

2138: 7

4628: 7

4594: 7 2666: 7

4277: 7

4510: 7

4426: 7

3782: 7

2716: 7

1613: 7

2340: 7

1682: 7

1561: 7

2432: 7

3474: 7

3529: 7

3960: 7

3967: 7

3905: 7

1595: 7

1522: 7

2578: 7

2690: 7

3107: 7

4129: 7

1959: 7

2612: 7

1286: 7

1602: 7

2937: 7

1225: 7

1625: 7 2443: 7

1788: 7

2421: 7

1929: 7

1966: 7

4153: 7

2794: 7

1580: 7

2617: 7

1785: 7

1422: 7

1761: 7

2743: 7

4741: 7

1887: 7

3835: 7

2089: 7

1170: 7

2349: 7

2289: 7

3141: 7

3584: 7

2772: 7 3879: 7

1361: 7 3247: 7

1510: 7

3548: 7

1646: 7

4293: 7

4693: 7

3621: 7

3042: 7

3783: 7

2447: 7

4515: 7

4389: 7

2555: 7

2001: 7

3306: 7

4178: 7

3251: 7

1283: 7

4495: 7

2055: 7

3768: 7

3266: 7 4487: 7

2041: 7

3844: 7

3225: 7

4302: 7

1768: 7

2454: 7

4783: 7

1649: 7

4831: 7

2433: 7

4828: 7

2273: 7

1245: 7

.

1231: 7 4531: 7

2568: 7

1440: 6

2226: 6

3797: 6

3956: 6

1814: 6

2311: 6

4666: 6

3077: 6

4567: 6

3111: 6

4251: 6

3863: 6

4201: 6

1442: 6

3119: 6

2391: 6

2560: 6

4753: 6

1051: 6

4065: 6

1065: 6

2545: 6

4362: 6

4243: 6

4762: 6

4646: 6

2413: 6

2244: 6

4924: 6

2325: 6

2602: 6 1661: 6

2779: 6

3764: 6

4391: 6 3353: 6

4042: 6

2389: 6

2941: 6

1493: 6

2715: 6

2873: 6

2540: 6

4564: 6

4077: 6 4616: 6

2202: 6

2755: 6

4746: 6

4826: 6

2028: 6

3629: 6

4807: 6

1565: 6

4822: 6

2857: 6

4699: 6

2175: 6

1457: 6

2086: 6

1279: 6

1494: 6

1783: 6

3164: 6

1472: 6

4441: 6

1632: 6

2129: 6

3903: 6

2694: 6

2344: 6

3380: 6

4194: 6

1296: 6

2048: 6

3827: 6

4146: 6

2950: 6

3973: 6

3856: 6

4294: 6

3862: 6

3972: 6

1097: 6

1197: 6

3600: 6

3743: 6

4155: 6

3719: 6

4056: 6

4214: 6

1407: 6 3959: 6

4113: 6

4412: 6

2961: 6

1729: 6

2955: 6

4932: 6

3745: 6

4183: 6

4330: 6

..--

1153: 6

3718: 6

4091: 6

2847: 6

3028: 6

1160: 6

1416: 6

1692: 6

2166: 6

2519: 6

4972: 6

1114: 6

1737: 6

1949: 6

2252: 6

3153: 6

2042: 6 1259: 6

3790: 6

4445: 6

2745: 6

3779: 6

1776: 6

2996: 6

4197: 6

2272: 6

2810: 6

2056: 6

1023: 6

4877: 6

4999: 6

3048: 6

2613: 6

3679: 6

1452: 6

3877: 6

4509: 6

3909: 6

4224: 6

4508: 6

3258: 6

3728: 6

3803: 6 2186: 6

1628: 6

2811: 6

4078: 6

4499: 6

1333: 6

4308: 6

2448: 6

2840: 6

1612: 6

4951: 6

1731: 6

4787: 6

1722: 6

1211: 6

3682: 6

3066: 6

1482: 6

2165: 6

4134: 6

2235: 6

2467: 6

1430: 6

2270: 6

4537: 6

2171: 6

4102: 6

1365: 6

4860: 6 2065: 6

3294: 6

4440: 6

1500: 6 1616: 6

2428: 6

2040: 6

4574: 6 2093: 6

1456: 6

3322: 6

3911: 6

4130: 6

4523: 6

4938: 6

2453: 6

4234: 6

1148: 6

4814: 6

1961: 6

3539: 6

4321: 6

4550: 6

2160: 6

1476: 6

2332: 6

4182: 6

3348: 6

1438: 6

4299: 6

4685: 6

2261: 6

1697: 6

3104: 6

1895: 6

3255: 6

4110: 6

2475: 6

3009: 6 4121: 6

1038: 6 4434: 6

1391: 6

2761: 6

3758: 6

1923: 6 3194: 6

4133: 6

4291: 6 1118: 6

3476: 6

1767: 6

2063: 6

3438: 6

1609: 6 3393: 6

3776: 6

1888: 6

4180: 6

1312: 6

4305: 6

4353: 6

1468: 6

1486: 6

1050: 6

3612: 6

4163: 6

1924: 6

2131: 6

1366: 6

3574: 6

3035: 6

3356: 6

3926: 6

.

2022: 6

3668: 6

2107: 6

4274: 6

1715: 6

2337: 6

2601: 6

3046: 6

3571: 6

4257: 6

3166: 6

4109: 6

3140: 6

3327: 6

4117: 6

4097: 6

1967: 6

1690: 6

1931: 6

3976: 6

1477: 6

4191: 6

1230: 6

3505: 6

2100: 6

3918: 6

1796: 6

3487: 6

3537: 6

2231: 6

4592: 6

4835: 6

1340: 6

3590: 6

3201: 6

4024: 6

4169: 6

1427: 6

1450: 6

1176: 6

2781: 6

2234: 6

4566: 6

3437: 6

1653: 6

4825: 6

3181: 6

4160: 6

1844: 6

1551: 6

2787: 6

1946: 6

3175: 6

1053: 6

1444: 6

3684: 6

2380: 6 4756: 6

1892: 6

1553: 6

3206: 6

1741: 6

2218: 6

3354: 6

2633: 6

1636: 6

3582: 6

1509: 6

1930: 6

4512: 6

4809: 6

4319: 6

3518: 6

4700: 6

3363: 6

1696: 6 1182: 6

4720: 6

3651: 6

2993: 6

4340: 6

4686: 6

1233: 6

2654: 6

2747: 6

3604: 6

1077: 6

1734: 6

1542: 6

3095: 6

2348: 6

3998: 6

2331: 6

2441: 6

2860: 6

2592: 6

2553: 6

1120: 6

1782: 6

1583: 6

1515: 6

4643: 6

3176: 6

3543: 6

1634: 6

4804: 6

2512: 6

3429: 6

2267: 6

3365: 6

3483: 6

1997: 6

1264: 6

3752: 6

4336: 6

4267: 6

1242: 6 1381: 5

2727: 5

2480: 5

3178: 5

3692: 5

3227: 5

4249: 5

1883: 5

2535: 5

2641: 5

4456: 5

1770: 5

3762: 5

3524: 5

2927: 5

4342: 5

3617: 5

3687: 5

3709: 5

4501: 5

2499: 5

4614: 5

0440

2148: 5

2383: 5

4836: 5

1859: 5

3160: 5

2355: 5

2431: 5

1162: 5

2390: 5 2573: 5

4991: 5

3010: 5

3950: 5

4036: 5

1820: 5

3900: 5

1129: 5

1062: 5

1404: 5

2178: 5

3486: 5

1817: 5

4947: 5 2254: 5

4832: 5

3456: 5

4715: 5

3220: 5

1939: 5

2139: 5

3442: 5

3011: 5

4312: 5

3321: 5

3727: 5

2365: 5

4891: 5

1995: 5

4266: 5

4588: 5

2144: 5

2240: 5

2912: 5

3390: 5

1342: 5

1575: 5

3502: 5

2719: 5

3535: 5

4939: 5

2813: 5 4192: 5

4320: 5

4788: 5

3041: 5

4922: 5

2552: 5

3808: 5

2682: 5

2803: 5

3948: 5

1017: 5

1499: 5

2274: 5

4268: 5

1687: 5

3089: 5

3691: 5

1913: 5

3081: 5

1620: 5

3264: 5 2401: 5

1339: 5

1764: 5 2152: 5

4717: 5

2580: 5 3857: 5

4275: 5 4322: 5

4657: 5

4923: 5 2701: 5

1133: 5

3756: 5

4697: 5

4712: 5

3622: 5

1726: 5

1652: 5

2320: 5

3619: 5

4641: 5

2484: 5

3168: 5

2346: 5

3297: 5 3832: 5

4442: 5

2375: 5

2975: 5 3026: 5

2656: 5

4769: 5

2038: 5

3763: 5

3971: 5

3203: 5

1507: 5

1282: 5

2751: 5

2870: 5

3099: 5

3822: 5

2836: 5

1489: 5

3897: 5

4348: 5

1815: 5

3154: 5

1752: 5

3038: 5

3515: 5

1269: 5

3100: 5

4265: 5

4782: 5

1937: 5

3005: 5

4988: 5

1309: 5

3866: 5

2356: 5

2653: 5

1380: 5

2952: 5

4584: 5

1001.

4967: 5

4819: 5

2504: 5

1719: 5

4444: 5

4862: 5

2958: 5

2047: 5

4403: 5

1969: 5

2169: 5

2362: 5

1294: 5

4649: 5

3947: 5

3609: 5

1980: 5

3252: 5

4544: 5

3893: 5

1419: 5

4585: 5

4662: 5

1862: 5

2713: 5 3116: 5

1747: 5

4993: 5

2029: 5

1428: 5

1750: 5

2849: 5

4650: 5

1285: 5

3204: 5

4261: 5

2154: 5

3675: 5

3364: 5

2194: 5

3579: 5

2685: 5

3633: 5

1934: 5

3072: 5

001Z. C

1109: 5

3966: 5

2004: 5

3985: 5

4148: 5

4228: 5

2879: 5

4722: 5

3324: 5

1276: 5

4138: 5

1623: 5

1736: 5

3559: 5

4853: 5

1363: 5

4259: 5

1174: 5

2314: 5

2659: 5

2973: 5

2212: 5

1641: 5

1599: 5

2769: 5

3489: 5

2978: 5

3282: 5

1940: 5

2997: 5

4708: 5

1943: 5

1303: 5

4959: 5

1092: 5

1504: 5

2587: 5

2800: 5

1081: 5

2523: 5

1220: 5

3500: 5

4459: 5

4793: 5

3002: 5

4555: 5

2876: 5

1819: 5

1010.

3599: 5

4883: 5 2210: 5

3677: 5

4778: 5

4170: 5

4326: 5

3296: 5

4503: 5

4240: 5

3999: 5

2128: 5

1846: 5

3497: 5

1789: 5

2043: 5

1171: 5

1899: 5

1000. 0

2910: 5

2991: 5

3698: 5

4280: 5

2092: 5

4747: 5

3963: 5 4082: 5

1417: 5

2399: 5

3694: 5

3882: 5

4375: 5

1587: 5

3142: 5

3846: 5

4432: 5

1910: 5

2232: 5

3031: 5

3344: 5

4086: 5

3848: 5

1360: 5

4392: 5

1797: 5

2909: 5

4505: 5

2893: 5

3396: 5

4579: 5

±019. C

2106: 5

2127: 5

3315: 5

3596: 5

4216: 5

4504: 5 3435: 5

0 - 0 0 . 0

2341: 5 2688: 5

2000. 0

2132: 5

3369: 5

4589: 5

1277: 5 1032: 5

1917: 5

3552: 5

3899: 5

4500

4563: 5

1074: 5

1329: 5

1527: 5

4334: 5 4073: 5

1554: 5

4744: 5

1175: 5

4255: 5

4527: 5

2435: 5

1033: 5

1605: 5

2906: 5

4796: 5

2204: 5

4211: 5

2068: 5

3849: 5

3704: 5

3721: 5

4076: 5

3937: 5

3817: 5

.

1945: 5

3208: 5

1621: 5

3917: 5

1881: 5

2796: 5

4433: 5

4430: 5

1526: 5 2072: 5

3587: 5

4705: 5

3182: 5

4596: 5

1677: 5

3343: 5

4448: 5

4931: 5

2079: 5

2437: 5

2570: 5

1514: 5

1702: 5

2306: 5

1385: 5

2479: 5 3067: 5

4618: 5

1658: 5

2595: 5

3746: 5

4196: 5

4632: 5

2604: 5

4946: 5

2795: 5

3575: 5

4125: 5

3544: 5

1426: 5

2964: 5

4367: 5

2986: 5

2699: 5

2920: 5

3847: 5

0011. 0

4212: 5

4669: 5

4800: 5

3209: 5

1603: 5

4431: 5

1061: 5

1354: 5 3531: 5

1839: 5

1746: 5

2196: 5

3013: 5

4842: 5

2291: 5

4735: 5

3439: 5

1355: 5

3469: 5

2525: 5

4868: 5

3329: 5

3881: 5

1491: 5

2832: 5

4220: 5

4962: 5

2102: 5

2018: 5

3614: 5

2861: 5

2643: 5

1435: 5

3592: 5

4244: 5

1332: 5

3878: 5

3946: 5

- 1754: 5
- 2255: 5
- 2825: 5
- 4112: 5
- 1028: 5
- 3186: 5
- 3325: 5
- 2648: 5
- 3778: 5
- 0110.
- 4958: 5
- 2629: 5
- 3458: 5
- 4785: 5
- 2618: 5
- 2982: 5
- 1010: 5
- 3416: 5
- 4867: 5
- 2359: 5
- 4598: 5
- 3683: 5
- 2837: 5
- 2176: 5
- 2374: 5
- 4817: 5
- 4743: 5
- 3840: 5
- 3526: 5
- 4030: 5
- 4851: 5
- 2672: 5
- 2142: 5
- 2784: 5
- ______
- 3922: 5 1125: 5
- 4606: 5
- 3113: 5
- 4975: 5
- 2251: 5
- 2676: 5
- 3034: 5
- 1801: 5
- 4637: 5
- 4969: 5
- 4258: 5
- 4470: 5
- 3666: 5
- 4498: 5

1026: 5

4288: 5

3931: 5

1000: 5

1035: 5

4572: 5

3389: 5

1001: 5

3760: 5

3165: 5

4688: 5

1287: 5

1780: 5 4916: 5

4152: 5

1143: 5

4106: 5

3384: 5

2885: 5

1086: 5

1748: 5

2396: 5

3063: 5

1774: 5

3986: 5

4890: 5

4427: 5

1474: 5

4281: 5

2151: 5

2712: 5

4398: 5

3337: 5

4540: 5

2476: 5

2209: 5

4108: 5

2547: 5

2867: 5

1950: 5

3358: 5

3891: 5

4323: 5

4120: 5

3347: 5

2069: 5

- 2404: 5
- 4789: 5
- 3962: 5
- 3014: 5
- 1584: 5
- 2785: 5
- 1324: 5
- 3245: 5
- 2691: 5
- 2237: 4
- 2943: 4
- 4260: 4
- 1528: 4
- 2472: 4
- 3259: 4
- 4014: 4
- 4408: 4
- 4847: 4
- 1165: 4
- 2185: 4
- 4758: 4
- 1897: 4
- 2565: 4
- 4879: 4
- 1863: 4
- 1879: 4
- 4221: 4
- 4872: 4
- 4306: 4
- 1374: 4
- 3407: 4
- 3475: 4
- 4559: 4
- 1018: 4
- 1738: 4
- 2243: 4
- 4066: 4
- 1964: 4
- 1443: 4
- 3789: 4
- 4681: 4
- 2564: 4
- 3554: 4
- 1054: 4 3222: 4
- 3697: 4
- 2446: 4
- 1069: 4

- 3378: 4
- 3639: 4
- 3695: 4
- 4944: 4
- 3468: 4
- 2241: 4
- 3713: 4
- 4094: 4
- 4659: 4
- 2801: 4
- 4680: 4
- 1009: 4
- 1278: 4
- 3613: 4
- 4324: 4
- 3717: 4
- 4435: 4
- 4485: 4
- 1454: 4
- 2336: 4
- 2466: 4
- 1856: 4
- 1970: 4
- 3045: 4
- 1268: 4
- 2732: 4
- 4045: 4
- 4582: 4
- 2049: 4
- 2608: 4
- 3030: 4
- 3411: 4
- 4772: 4
- 2104: 4
- 4131: 4
- 2649: 4
- 2726: 4
- 2869: 4
- 1723: 4
- 2556: 4
- 3509: 4
- 4821: 4
- 2343: 4
- 3731: 4
- 1302: 4
- 1597: 4
- 1648: 4
- 1896: 4

- 2854: 4
- 3785: 4
- 4633: 4
- 2693: 4
- 2930: 4
- 4394: 4
- 3919: 4
- 2439: 4
- 3736: 4
-
- 4098: 4
- 1903: 4
- 2059: 4
- 2460: 4
- 4088: 4
- 4264: 4
- 4388: 4
- 1158: 4
- 2900: 4
- 4009: 4
- 2388: 4
- 4368: 4
- 4418: 4
- 2141: 4
- 2483: 4
- 3452: 4
- 1724: 4
- 4823: 4
- 3828: 4
- 4401: 4
- 3215: 4
- 3821: 4
- 3705: 4
- 1864: 4
- 2085: 4
- 1604: 4 4164: 4
- 4325: 4
- 4325. 4
- 4156: 4
- 4215: 4
- 4541: 4
- 4463: 4
- 4575: 4
- 4750: 4
- 1512: 4
- 2155: 4
- 4107: 4
- 4839: 4
- 2067: 4

- 3112: 4
- 1040: 4
- 1517: 4
- 4740: 4
- 4648: 4
- 2363: 4
- 4665: 4
- 1938: 4
- 1234: 4
- 2044: 4
- 3386: 4
- 4127: 4
- 2798: 4
- 3965: 4
- 4546: 4
- 2149: 4
- 2310: 4
- 2804: 4
- 3307: 4
- 4897: 4
- 1420: 4
- 2989: 4
- 3109: 4
- 4636: 4
- 1128: 4
- 2924: 4
- 3267: 4
- 3334: 4
- 3850: 4
- 4114: 4
- 4462: 4
- 1676: 4
- 3083: 4
- 3283: 4
- 4461: 4
- 4046: 4
- 1852: 4
- 1772: 4
- 2201: 4
- 3661: 4
- 4236: 4
- 2287: 4
- 2888: 4
- 3385: 4
- 4502: 4
- 3670: 4
- 4013: 4
- 1655: 4

4556: 4

4837: 4

2969: 4

3079: 4

2403: 4

2843: 4

2901: 4

4840: 4

4914: 4

2309: 4

3102: 4

3236: 4

1173: 4

3071: 4

3193: 4

2510: 4 4096: 4

1202: 4

3615: 4

2236: 4

2984: 4

3148: 4 3287: 4

3521: 4

4080: 4

2233: 4

3207: 4

2307: 4

1002: 4

2778: 4

3674: 4

3027: 4

1810: 4

3703: 4 4193: 4

3298: 4

1475: 4

3059: 4

2033: 4

4199: 4

1705: 4

4037: 4

3570: 4

1838: 4

2815: 4

1223: 4

1847: 4

3953: 4

2756: 4

3409: 4

1622: 4

2010: 4

2585: 4

3620: 4

2763: 4

4652: 4

1108: 4

1142: 4

1058: 4 3051: 4

1497: 4

3561: 4

4154: 4 3312: 4

2548: 4

4230: 4

1693: 4

2111: 4

3645: 4

4985: 4

1524: 4

2321: 4

1331: 4

1803: 4

3557: 4

3913: 4

3479: 4

2530: 4

3224: 4

2449: 4

3299: 4

3843: 4

2262: 4

4986: 4

2518: 4

1877: 4

4855: 4

2469: 4

4538: 4

4603: 4

1075: 4

4092: 4

- 1412: 4
- 2932: 4
- 3021: 4
- 3961: 4
- 2415: 4
- 1535: 4
- 4071: 4
- 4929: 4
- 2087: 4
- 1049: 4
- 1364: 4
- 1216: 4
- 1617: 4
- 4684: 4
- 1478: 4
- 2904: 4
- 4115: 4
- 4806: 4
- 1615: 4 2962: 4
- 4859: 4
- 4232: 4
- 3653: 4
- 4704: 4
- 4166: 4
- 3735: 4
- 1855: 4
- 1449: 4
- 4554: 4
- 2948: 4
- 3759: 4
- 1347: 4 1596: 4
- 3772: 4
- 3300: 4 2899: 4
- 3451: 4
- 2400: 4 1835: 4
- 2188: 4
- 3568: 4 1293: 4
- 2805: 4 2509: 4
- 1730: 4
- 1308: 4
- 1498: 4
- 4218: 4

4899: 4

4397: 4

1800: 4

2616: 4

4380: 4

1104: 4

2345: 4

1708: 4

2650: 4

2914: 4

3558: 4

2777: 4

1848: 4

4629: 4 3894: 4

2082: 4

1431: 4 4760: 4

4960: 4

1833: 4

4122: 4

2083: 4

4207: 4

2191: 4

4953: 4

4119: 4

2723: 4

2762: 4

1564: 4

1403: 4

2940: 4

4467: 4

1330: 4

4074: 4 4003: 4

4655: 4

4610: 4

4576: 4

3997: 4

4006: 4

2977: 4

2436: 4

1808: 4

1890: 4

4727: 4

1349: 4

1152: 4

2211: 4

4895: 4

1678: 4

3471: 4

4417: 4

2874: 4

3741: 4

4841: 4

1656: 4

3774: 4

2073: 4

4593: 4

2101: 4 2061: 4

4742: 4

3061: 4

2709: 4

2974: 4

3681: 4

4942: 4

3831: 4

3133: 4

4204: 4

4726: 4

1473: 4

1544: 4

2470: 4

3498: 4

1291: 4

2834: 4

4749: 4

1130: 4

1209: 4

1743: 4

2242: 4

3493: 4

4355: 4

2076: 4

1139: 4

1591: 4

1816: 4

2091: 4

2353: 4

2850: 4

4233: 4

3025: 4

3890: 4

3680: 4

4812: 4

4925: 4

1822: 4

3608: 4

4479: 4

11.0.

1699: 4

4561: 4

2339: 4

3447: 4

3769: 4

4963: 4

4349: 4

1488: 4

3767: 4

3815: 4

4372: 4

1297: 4

2495: 4

3015: 4

1113: 4

1996: 4

2505: 4 3921: 4

4635: 4

1000.

3254: 4

4132: 4

4690: 4

1706: 4

1999: 4

2058: 4

3414: 4 3556: 4

0000. 1

3896: 4

4474: 4 1246: 4

2147: 4

3426: 4

4468: 4

2157: 4

2807: 4

4371: 4

1534: 4

1733: 4

4794: 4

4613: 4

1141: 4

2671: 4

4075: 4

1102: 4

2312: 4

3158: 4

1751: 4

2156: 4

2792: 4

3022: 4

3662: 4

3748: 4

4162: 4

1900: 4

2788: 4

3910: 4 3920: 4

4710: 4

1432: 4

2245: 4

4638: 4

3185: 4

1867: 4

1663: 4

4992: 4

3127: 4

1829: 4

3226: 4

1837: 4

2506: 4

1241: 4

1335: 4

2935: 4

3730: 4

1111: 4

3686: 4

3842: 4

4226: 4 3952: 4

JJJZ. 4

2871: 4 3689: 4

4025: 4

1212: 4

1685: 4

- 1955: 4
- 4473: 4
- 1115: 4
- 3851: 4
- 1501: 4
- 2979: 4
- 2207: 4
- 3421: 4
- 1869: 4
- 3423: 4
- 2300: 4
- 2680: 4
- 4493: 4
- 2730: 4
- 2884: 4
- 3117: 4
- 1280: 4
- 2031: 4
- 2669: 4 1073: 4
- 2109: 4 2934: 4
- 1186: 4
- 1199: 4
- 2071: 4
- 2284: 4
- 4150: 4
- 1853: 4
- 1578: 4
- 3496: 4 3934: 4
- 1824: 4
- 3816: 4
- 1479: 4
- 1757: 4
- 2361: 4 3398: 4
- 4830: 4
- 4500: 4
- 4886: 4
- 3237: 4 1014: 4
- 3603: 4
- 3459: 4
- 3190: 4
- 3659: 4 4285: 4
- 4471: 4

3667: 4

4085: 4

3123: 4

3262: 4

3588: 4

2561: 4

2620: 4

2689: 4

1585: 4

1341: 4

2673: 4

2301: 4

1935: 4

2195: 4

4492: 4

1508: 4

4736: 4

4578: 4

2802: 4

2077: 4

3804: 4

3749: 4

4028: 4

2562: 4

4039: 4 2238: 4

2066: 4

1127: 4

1399: 4

2981: 4

3144: 4

3427: 4

1006: 4

2122: 4 1606: 4

4101: 4

4369: 4

1343: 4

2661: 4

3716: 4

1027: 4

4219: 4

2507: 4

4103: 4

2831: 4

4622: 4

4761: 4

3138: 4

4410: 4

1103: 4

3399: 4

3338: 4

3646: 4

1825: 4

2543: 4

2508: 4

3481: 4

2594: 4

1425: 4

2489: 4 3323: 4

4415: 4 1150: 4

3342: 4

4384: 4

2916: 4

1041: 4

2295: 4

4687: 4

1178: 4

1012: 4

2496: 4

3669: 4

3563: 4

2257: 4

4040: 4

4893: 4

2577: 4

4068: 4

1674: 4

4044: 4

1320: 4

2369: 4 3200: 4

2366: 4

2230: 4 4035: 4

4361: 4

4557: 4

4245: 4

4313: 4

4906: 4

- 2830: 4
- 1619: 4
- 4608: 4
- 2775: 4
- 1893: 4
- 2364: 4
- 1668: 4
- 2944: 4
- 4144: 4
- 3276: 4
- 2702: 4
- 1818: 4
- 1567: 4
- 1185: 4
- 3145: 4
- 1356: 4 4692: 4
- 1679: 4
- 1894: 4
- 3039: 4
- 3405: 4
- 4733: 4
- 3701: 4
- 3898: 4
- 4147: 4
- 2074: 4
- 4017: 4
- 1421: 4
- 3987: 4
- 4725: 4
- 1289: 4
- 2883: 4
- 3673: 4
- 2544: 4
- 3062: 4
- 4675: 4
- 1123: 4
- 2687: 4
- 3310: 4
- 3161: 4
- 3132: 4 4766: 4
- 1843: 4 3443: 4
- 2225: 4
- 2703: 4
- 3929: 4
- 2741: 4

- 3256: 4
- 4934: 4
- 4008: 4
- 1358: 4
- 2864: 4
- 2005: 4
- 1742: 4
- 2464: 4
- 2574: 4
- 4105: 4
- 1100. 1
- 4529: 4
- 1773: 4
- 4149: 4
- 1885: 4
- 3809: 4
- 4536: 4
- 4728: 4
- 1851: 4
- 4827: 4
- 1322: 4
- 3520: 4
- 4286: 4
- 3370: 4
- 4351: 4
- 1540: 4
- 3545: 4
- 3430: 4
- 1850: 4
- 2882: 4
- 4296: 4
- 1799: 4
- 2290: 4
- 3601: 4
- 3738: 4
- 4273: 4 3794: 4
- 3214: 4
- 3214. 4
- 2700: 4
- 2599: 4
- 2386: 4
- 2513: 4
- 3460: 4
- 1968: 4
- 2563: 4
- 2494: 4
- 2167: 4
- 2327: 4
- 2678: 4

- 4776: 4
- 4352: 4
- 3328: 4
- 3128: 4
- 1016: 4
- 3504: 4
- 3463: 4
- 1874: 4
- 2351: 3
- 2020: 3
- 3538: 3
- 1529: 3
- 2538: 3
- 4520: 3
- 1545: 3
- 1147: 3
- 2035: 3
- 4270: 3
- 1759: 3
- 3722: 3
- 2528: 3
- 2675: 3
- 3219: 3
- 4300: 3
- 1369: 3
- 2239: 3
- 1821: 3
- 3482: 3
- 2463: 3
- 2541: 3
- 1194: 3
- 2520: 3
- 4803: 3
- 1316: 3
- 1698: 3
- 2980: 3
- 3293: 3
- 1196: 3
- 1445: 3
- 2808: 3
- 2967: 3
- 4660: 3
- 1781: 3
- 1672: 3
- 2030: 3
- 2557: 3
- 1301: 3
- 1424: 3

4443: 3

3156: 3

3805: 3

4887: 3

1791: 3

2036: 3

1549: 3

2094: 3

4359: 3

4751: 3

1805: 3

2742: 3

2862: 3

3895: 3

4626: 3

1703: 3

3092: 3

2177: 3

1126: 3

2939: 3

4771: 3

1418: 3

4917: 3

4145: 3

2081: 3

3751: 3

4172: 3

1684: 3

2316: 3

4414: 3

4770: 3

1134: 3

1290: 3

2452: 3

2627: 3

1100: 3

1593: 3

2631: 3

2786: 3

4676: 3

1647: 3

1978: 3

2537: 3

2753: 3

3065: 3

3540: 3

2170: 3

1947: 3

3033: 3

2279: 3

1206: 3

2662: 3

4256: 3

2790: 3

1660: 3

4061: 3

3553: 3

4048: 3

4179: 3

1229: 3

1550: 3

1771: 3

3527: 3

1718: 3

1043: 3

2097: 3

4849: 3

4089: 3

4620: 3

2407: 3

3401: 3

3773: 3

3861: 3

4079: 3

1523: 3

2744: 3

1198: 3

2393: 3

2521: 3

4298: 3

4729: 3

4873: 3 2424: 3

2938: 3

4861: 3

2162: 3 1095: 3

4876: 3

2490: 3

1325: 3

3170: 3

4341: 3

- 2698: 3
- 3150: 3
- 3494: 3
- 4706: 3
- 3273: 3
- 2921: 3
- 2971: 3
- 4752: 3
- 4968: 3
- ----
- 2683: 3
- 1372: 3
- 4668: 3
- 4069: 3
- 2025: 3
- 2652: 3
- 2692: 3
- 2750: 3
- 2880: 3
- 1836: 3
- 2037: 3
- 4533: 3
- 3642: 3
- 4597: 3
- 2402: 3
- 4081: 3
- 3550: 3
- 3159: 3
- 2838: 3
- 3281: 3
- 3288: 3
- 4484: 3
- 1085: 3
- 2897: 3
- 4337: 3
- 4833: 3
- 1215: 3
- 1373: 3
- 4213: 3
- 4252: 3
- 1389: 3
- 2181: 3
- 1163: 3
- 2875: 3
- 2174: 3
- 4177: 3
- 1057: 3
- 3428: 3
- 1145: 3

1784: 3

4542: 3

1154: 3

4586: 3

3357: 3

3485: 3

3799: 3

1928: 3

4331: 3

4370: 3

4577: 3

1021: 3

1021.

2146: 3 2219: 3

3996: 3

4363: 3

4901: 3

1716: 3

3980: 3

1828: 3

3006: 3

4913: 3

1025: 3

3295: 3

3305: 3

1717: 3

3693: 3

4407: 3

1787: 3

2839: 3

2168: 3

2410: 3

1954: 3

3020: 3

1962: 3

4984: 3

2642: 3

2926: 3

3317: 3

1323: 3 3672: 3

3902: 3

4478: 3

3135: 3

3244: 3

3839: 3

- 4038: 3
- 4673: 3
- 2206: 3
- 3488: 3
- 1990: 3
- 2358: 3
- 3852: 3
- 1015: 3
- 4269: 3
- 4543: 3
- 1010.
- 4866: 3
- 2898: 3 4171: 3
- 11/1. 0
- 4058: 3
- 4050: 3
- 1460: 3
- 1304: 3
- 1138: 3
- 1547: 3
- 2829: 3
- 1101: 3
- 1244: 3
- 4413: 3
- 3118: 3
- 4723: 3
- 4971: 3
- 1083: 3
- 3708: 3
- 4229: 3
- 1099: 3
- 1020: 3
- 1588: 3
- 3685: 3
- 1994: 3
- 2264: 3 3012: 3
- 2705: 3
- 2105. 5
- 1298: 3
- 1305: 3
- 2360: 3
- 1281: 3
- 1760: 3
- 4569: 3 1562: 3
- 3060: 3
- 1495: 3
- 2664: 3
- 4765: 3

1382: 3

3188: 3

3424: 3

4691: 3

4908: 3

4856: 3

3912: 3

1392: 3

2942: 3

3532: 3

4511: 3

1665: 3

3151: 3

4940: 3

3368: 3

4381: 3

4571: 3

3277: 3

2457: 3

4034: 3

2679: 3

1408: 3

3075: 3

3210: 3

1601: 3

2434: 3

3710: 3

2108: 3

2113: 3

3383: 3

1758: 3

2532: 3

2338: 3

3183: 3 3904: 3

4449: 3

3750: 3

3303: 3

1045: 3

4022: 3

4845: 3

3636: 3

3316: 3

4012: 3

2569: 3

3551: 3

4854: 3

2646: 3

2711: 3

2579: 3

2846: 3

4344: 3

2551: 3

2630: 3

4001: 3

4591: 3

3346: 3

4989: 3

1315: 3 3023: 3

4532: 3

3229: 3 1463: 3

1635: 3

3394: 3

1778: 3

4689: 3

3924: 3

3058: 3

4811: 3

1982: 3

1993: 3

3053: 3

2253: 3

1834: 3

2427: 3

2013: 3

4892: 3

3260: 3 4881: 3

4439: 3

3455: 3

3886: 3

3433: 3

4031: 3

4677: 3

1804: 3

1872: 3

3195: 3

4843: 3

2117: 3

1409: 3

2260: 3

1873: 3

2485: 3

1484: 3

3472: 3

3167: 3

1213: 3

1210.

1763: 3

4238: 3

4295: 3

1183: 3

4328: 3

3958: 3

1901: 3

3339: 3

4064: 3

3419: 3

1670: 3

3406: 3

2902: 3

1357: 3

2265: 3

4552: 3

1518: 3

1306: 3

3096: 3

4848: 3

2818: 3

3036: 3

4734: 3

2542: 3

2610: 3

1066: 3

3130: 3 3641: 3

4450: 3

2459: 3

3313: 3

2477: 3

3382: 3

3765: 3

2674: 3

4943: 3

1590: 3

2259: 3

2379: 3

3172: 3

1548: 3

1664: 3

4060: 3

1868: 3

2766: 3

1779: 3

4067: 3

1311: 3

4858: 3

2134: 3

3349: 3

3516: 3

1569: 3

3656: 3

4329: 3

4698: 3

2258: 3

3320: 3

3403: 3

4400: 3

1336: 3

3678: 3

3530: 3

3945: 3

4658: 3

1159: 3

2430: 3

4670: 3

4140: 3

2303: 3

3787: 3

1376: 3

1546: 3 3129: 3

1011: 3

3213: 3 3425: 3

3795: 3

2451: 3

3473: 3

4957: 3

1446: 3

4664: 3

3664: 3

3400: 3

4935: 3

1581: 3

4136: 3

4674: 3

3644: 3

3766: 3

3087: 3

1022: 3

1299: 3

1200.

2922: 3

3564: 3

4663: 3

3271: 3

4033: 3

4738: 3

4910: 3

1200: 3

4763: 3 4979: 3

2514: 3

2863: 3

2947: 3

1732: 3

4898: 3

2075: 3

4896: 3

1520: 3

2009: 3

4090: 3

4654: 3

1064: 3

4696: 3

1842: 3

3744: 3

4617: 3

4640: 3

1217: 3

1413: 3

1295: 3

2277: 3

4404: 3

4678: 3 1533: 3

2278: 3

2008: 3

1611: 3

4345: 3

3720: 3

4955: 3

1383: 3

1904: 3

2411: 3

2774: 3

4290: 3

1434: 3

2352: 3

4318: 3

4339: 3

2908: 3

2644: 3

2023: 3

4539: 3 2733: 3

4310: 3

1031: 3

1657: 3

3784: 3

4956: 3

2299: 3

3715: 3

4283: 3

4786: 3

2754: 3

1188: 3

3712: 3

2695: 3

2872: 3

1390: 3

2681: 3 3217: 3

4522: 3

3275: 3

2593: 3

1594: 3

2324: 3

4990: 3

1823: 3

3671: 3

3263: 3

1573: 3

3106: 3

4950: 3

3003: 3

4126: 3

1786: 3

4021: 3

4100: 3

2217: 3

1274: 3

1598: 3

3157: 3

4041: 3

3989: 3

4488: 3

1207: 3

1205: 3

2269: 3

3814: 3

1686: 3

3724: 3

4894: 3

1461: 3

2619: 3

2824: 3

3068: 3

3577: 3

4289: 3

3871: 3

3616: 3

2623: 3

1680: 3

4813: 3

4373: 3

1985: 3

4781: 3

4798: 3

1916: 3

2371: 3

3916: 3

4116: 3

3869: 3

4489: 3

4709: 3

2522: 3

3569: 3

1971: 3

2954: 3

4070: 3

4764: 3

4902: 3

1328: 3

1792: 3

2119: 3

3781: 3

4049: 3

2054: 3

2140: 3

4284: 3

4059: 3

2376: 3

2398: 3

2502: 3

2444: 3

2817: 3

2221: 3

4983: 3

1728: 3

3302: 3 1393: 3

1000. 0

2771: 3 4356: 3

3854: 3

2034: 3

3923: 3

4246: 3

4911: 3

4818: 3

3279: 3

0210.

2183: 3 3280: 3

2559: 3

2571: 3

4871: 3

3928: 3

3528: 3

4357: 3

4790: 3

4838: 3

3397: 3

1181: 3

3800: 3

4466: 3

1240: 3

2420: 3

- 4304: 3
- 1629: 3
- 3867: 3
- 1926: 3
- 2276: 3
- 4227: 3
- 2419: 3
- 4987: 3
- 1831: 3
- 3242: 3
- 1536: 3
- 2450: 3
- 3241: 3
- 3534: 3
- 1710: 3
- 1345: 3
- 1388: 3
- 2903: 3
- 1187: 3 2639: 3
- 1232: 3 3292: 3
- 2159: 3 1195: 3
- 3699: 3
- 4428: 3
- 1371: 3
- 1624: 3
- 2053: 3
- 1807: 3
- 3420: 3
- 1639: 3
- 1725: 3
- 2062: 3
- 2114: 3 2187: 3
- 2606: 3
- 4970: 3
- 1882: 3
- 3801: 3
- 3876: 3
- 3974: 3
- 4558: 3 1252: 3
- 4167: 3
- 3360: 3
- 4424: 3
- 4535: 3

- 2536: 3
- 3688: 3
- 5000: 3
- 1346: 3
- 3387: 3
- 3907: 3
- 4607: 3
- 1370: 3
- 1749: 3
- 1, 10, 0
- 3546: 3
- 4195: 3
- 4469: 3
- 4878: 3
- 4184: 3
- 1386: 3
- 2115: 3
- 2533: 3
- 4869: 3
- 2865: 3
- 1056: 3
- 1122: 3
- 4176: 3
- 3927: 3
- 4420: 3
- 4360: 3
- 4651: 3
- 1854: 3
- 4634: 3
- 1582: 3
- 3029: 3
- 3935: 3
- 1458: 3
- 3739: 3
- 1765: 3
- 3235: 3
- 3586: 3
- 1987: 3
- 1168: 3
- 3088: 3
- 1627: 3
- 2247: 3
- 4358: 3
- 3017: 3
- 1377: 3 3304: 3
- 3018: 3
- 3755: 3
- 2749: 3

2782: 3

4672: 3

1132: 3

2110: 3

3470: 3

4600: 3

1914: 3

3914: 3

1538: 3

1270: 3

2471: 3

2999: 3

1902: 3

1047: 3

2143: 3

4482: 3

4254: 3

2951: 3

1155: 3

4460: 3

2622: 3

3445: 3

4095: 3

1088: 3

3640: 3

3519: 3

1992: 3

3591: 3

2757: 3

4996: 3

1135: 3

4395: 3

2500: 3

1090: 3

2286: 3

3202: 3

1067: 3

1319: 3

1042: 3

1845: 3

4605: 3 4757: 3

1326: 3

3597: 3

3547: 3

2326: 3

- 2200: 3
- 3449: 3
- 3637: 3
- 1249: 2
- 1253: 2
- 2963: 2
- 3007: 2
- 2933: 2
- 1284: 2
- 4900: 2
- 1167: 2
- 1981: 2
- 3837: 2
- 4020: 2
- 2919: 2
- 3291: 2
- 2347: 2
- 2118: 2
- 2905: 2 4250: 2
- 2137: 2
- 2615: 2
- 1650: 2
- 3350: 2
- 4365: 2
- 2607: 2
- 1161: 2
- 2725: 2
- 4458: 2
- 1344: 2
- 4317: 2
- 1941: 2
- 4513: 2
- 1367: 2
- 1180: 2
- 2334: 2
- 3807: 2
- 2605: 2
- 2704: 2
- 2478: 2
- 3417: 2 3984: 2
- 1219: 2 4241: 2
- 1487: 2
- 2105: 2
- 3933: 2
- 4383: 2

- 2116: 2
- 2377: 2
- 1350: 2
- 1516: 2
- 3541: 2
- 3076: 2
- 4627: 2
- 3125: 2
- 1423: 2
- 2120. 2
- 3103: 2
- 3979: 2
- 2859: 2
- 1644: 2
- 2983: 2
- 4625: 2
- 2032: 2
- 3626: 2
- 4857: 2
- 2350: 2
- 2776: 2
- 2112: 2
- 4483: 2
- 3726: 2
- 4801: 2
- 2121: 2
- 3074: 2
- 3014. 2
- 1396: 2
- 1453: 2
- 3278: 2
- 3598: 2
- 1437: 2
- 4880: 2 3457: 2
-
- 4210: 2
- 3610: 2
- 1082: 2
- 1957: 2
- 1157: 2
- 3834: 2
- 3231: 2
- 2911: 2
- 4422: 2
- 4850: 2
- 3056: 2
- 4231: 2
- 4570: 2
- 2395: 2
- 4888: 2

- 2012: 2
- 2015: 2
- 4087: 2
- 2915: 2
- 4846: 2
- 1310: 2
- 2308: 2
- 4309: 2
- 4927: 2
- 1794: 2
- 1411: 2 1766: 2
- 3272: 2
- 1681: 2
- 1907: 2
- 4343: 2
- 1563: 2
- 3975: 2
- 2994: 2
- 4997: 2
- 1124: 2
- 3883: 2
- 1448: 2
- 1633: 2
- 4385: 2
- 4581: 2
- 3969: 2
- 1607: 2
- 4378: 2
- 1070: 2
- 1700: 2
- 2319: 2
- 2330: 2
- 3747: 2
- 2887: 2
- 1666: 2
- 1405: 2
- 2078: 2
- 2842: 2
- 3647: 2
- 1137: 2
- 4480: 2
- 1257: 2
- 3461: 2
- 1795: 2
- 3711: 2
- 4865: 2
- 4099: 2

2493: 2

3098: 2

3110: 2

3466: 2

3073: 2

3978: 2

3351: 2

3501: 2

. . - . .

1059: 2

3654: 2

2637: 2

1927: 2

4282: 2

4714: 2

2172: 2

2158: 2

4528: 2

3464: 2

2026: 2

2588: 2

2936: 2

2455: 2

3408: 2

3892: 2

1830: 2

3359: 2

4123: 2

2481: 2

3618: 2

2848: 2

4174: 2

4032: 2

4475: 2

4287: 2

3810: 2 2080: 2

4016: 2

2722: 2

3820: 2

3630: 2

1471: 2

2526: 2

3658: 2

1179: 2

3802: 2

2797: 2

2812: 2

4239: 2

1638: 2

2670: 2

3286: 2

4374: 2

2892: 2

3330: 2

.

1398: 2

2531: 2

1589: 2

1078: 2

1451: 2

4534: 2

2770: 2

1712: 2

2266: 2

4518: 2 3212: 2

3373: 2

3265: 2

3525: 2

1559: 2

4920: 2

1886: 2

1880: 2

2016: 2

4481: 2

2088: 2

1531: 2

3939: 2

2180: 2

2658: 2 3049: 2

1911: 2

4707: 2

2576: 2

3578: 2

1378: 2

1557: 2

2318: 2

4792: 2

1429: 2

3285: 2

1506: 2

1201: 2

- 4784: 2
- 3906: 2
- 3240: 2
- 4271: 2
- 1321: 2
- 1727: 2
- 2084: 2
- 2665: 2
- 2425: 2
- 2970: 2
- 3665: 2
- 3992: 2
- 1571: 2
- 2458: 2
- 4185: 2
- 2283: 2
- 3889: 2
- 2539: 2
- 2003: 2
- 1643: 2
- 1151: 2
- 2913: 2
- 2173: 2
- 3211: 2
- 3078: 2
- 4642: 2
- 2710: 2
- 4604: 2
- 3024: 2
- 3650: 2
- 2856: 2
- 3729: 2
- 1192: 2
- 3032: 2
- 4966: 2
- 1140: 2
- 4225: 2
- 1762: 2
- 4560: 2
- 1481: 2
- 2527: 2
- 3085: 2
- 3954: 2
- 2249: 2 3754: 2
- 3868: 2
- 3791: 2
- 4205: 2

- 1918: 2
- 1467: 2
- 4644: 2
- 2275: 2
- 4519: 2
- 3981: 2
- 3355: 2
- 3634: 2
- 1920: 2
- 4497: 2
- 3870: 2
- 2046: 2
- 1614: 2
- 2516: 2
- 3859: 2
- 4702: 2
- 3806: 2
- 4810: 2
- 2392: 2 2462: 2
- 1790: 2
- 4919: 2
- 2250: 2
- 2397: 2
- 3196: 2
- 1226: 2
- 3885: 2
- 1502: 2
- 4411: 2
- 4977: 2
- 1631: 2
- 2190: 2
- 1936: 2
- 2624: 2
- 1683: 2
- 4619: 2
- 3513: 2
- 4405: 2
- 3585: 2
- 1149: 2
- 1348: 2
- 3542: 2
- 4452: 2
- 2039: 2
- 4507: 2
- 3198: 2
- 4027: 2
- 1334: 2

- 4189: 2
- 2465: 2
- 1222: 2
- 2677: 2
- 2721: 2
- 4964: 2
- 3983: 2
- 3318: 2
- 4611: 2
- 2007: 2
- 2001. 2
- 3955: 2
- 1909: 2
- 1044: 2
- 3572: 2
- 2635: 2
- 2586: 2
- 1857: 2
- 4332: 2
- 4158: 2
- 3977: 2
- 4907: 2
- 4382: 2
- 2809: 2
- 4157: 2
- 4609: 2
- 2881: 2
- 2949: 2
- 2591: 2
- 1694: 2
- 2384: 2
- 4143: 2
- 1351: 2
- 3566: 2
- 1462: 2
- 1755: 2
- 2322: 2 3512: 2
- 3312. 2
- 2246: 2
- 1714: 2
- 2328: 2
- 1005: 2 2461: 2
- 4759: 2
- 1645: 2
- 1662: 2
- 3057: 2
- 2199: 2
- 3964: 2

- 1860: 2
- 3131: 2
- 1809: 2
- 1965: 2
- 2125: 2
- 3249: 2
- 1586: 2
- 1972: 2
- 2313: 2
- 4995: 2
- 1000. 2
- 2098: 2
- 3257: 2
- 1080: 2
- 2923: 2
- 3216: 2
- 3696: 2
- 2890: 2
- 2153: 2
- 2626: 2
- 2886: 2
- 3901: 2
- 4173: 2
- 1318: 2
- 2135: 2
- 3714: 2
- 3798: 2
- 1193: 2
- 1166: 2
- 1100. 2
- 2697: 2
- 2972: 2
- 4874: 2
- 4135: 2
- 1189: 2
- 2027: 2
- 4981: 2
- 4791: 2
- 1362: 2
- 1254: 2
- 1640: 2
- 1338: 2
- 1915: 2 4948: 2
- 1340. 2
- 3238: 2 4278: 2
- 4863: 2
- 4168: 2
- 3395: 2
- 3580: 2

- 4209: 2
- 2995: 2
- 2660: 2
- 4396: 2
- 4599: 2
- 3522: 2
- 4139: 2
- 1988: 2
- 4615: 2
- 1387: 2
- 2965: 2
- 4465: 2
- 4739: 2
- 4100. 2
- 3069: 2
- 4047: 2
- 4402: 2
- 1258: 2 2161: 2
- 2101. 2
- 2546: 2 2609: 2
- 2000: 2
- 3004: 2
- _ _ _ _
- 3453: 2 1247: 2
- 1260: 2
- 2878: 2
- 4553: 2
- 3008: 2
- 2057: 2
- 2486: 2
- 4315: 2
- 3441: 2
- 1735: 2
- 2917: 2
- 2724: 2
- 3908: 2
- 1415: 2
- 1891: 2
- 4393: 2
- 2768: 2
- 2501: 2
- 1055: 2
- 3733: 2
- 4327: 2
- 1530: 2
- 4653: 2
- 3632: 2
- 4054: 2

3968: 2

4974: 2

3381: 2

2024: 2

4052: 2

4716: 2

2060: 2

2708: 2

4562: 2

2329: 2

3366: 2

3930: 2

2354: 2

2638: 2 3218: 2

4377: 2

4409: 2 4583: 2

2285: 2

1337: 2

3936: 2

2323: 2

3753: 2

1261: 2

3341: 2

3860: 2

1919: 2

4311: 2

2877: 2

1105: 2

3064: 2

3836: 2

1958: 2

2740: 2

2822: 2

1806: 2

4457: 2

1072: 2

1184: 2

2621: 2

3253: 2

1236: 2 3146: 2

4713: 2

3444: 2

4551: 2

- 3326: 2
- 1063: 2
- 2823: 2
- 4547: 2
- 1079: 2
- 1840: 2
- 3602: 2
- 1525: 2
- 1769: 2
- 4909: 2
- 1262: 2
- 1942: 2
- 3514: 2
- 4774: 2
- 3925: 2
- 3374: 2
- 4354: 2
- 2423: 2
- 2651: 2
- 1068: 2
- 3725: 2
- 1214: 2
- 4093: 2
- 4612: 2
- 2966: 2
- 3047: 2
- 1288: 2
- 1709: 2
- 2488: 2
- 4379: 2
- 2731: 2
- 2737: 2
- 1511: 2
- 1224: 2 1568: 2
- 1975: 2
- 3676: 2
- 3269: 2
- 4347: 2
- 2473: 2
- 3163: 2 1689: 2
- 2686: 2 1720: 2
- 3177: 2
- 2976: 2
- 3332: 2
- 3611: 2

3742: 2

4730: 2

1191: 2

3655: 2

3415: 2

1944: 2

2372: 2

3174: 2

4198: 2

3379: 2

3707: 2

4477: 2

2827: 2

3888: 2

1490: 2

1263: 2 3250: 2

2050: 2

1630: 2

2667: 2

2006: 2

2853: 2

3052: 2

2205: 2

2998: 2

3191: 2

4595: 2

2739: 2

2468: 2

4010: 2

1521: 2

1739: 2

1532: 2

2280: 2 3652: 2

4390: 2

2945: 2 2192: 2

2342: 2

2845: 2

3418: 2

3333: 2

3884: 2

4580: 2

2412: 2

3019: 2

4051: 2

1707: 2

1610: 2

4965: 2

3813: 2

1164: 2

3037: 2

2657: 2

2001. 2

4903: 2

2655: 2

2335: 2

3940: 2

2145: 2

3143: 2

1858: 2

1401: 2

4647: 2

1273: 2

4936: 2

3169: 2

2728: 2

1394: 2

2583: 2

3567: 2

3147: 2

2575: 2

3432: 2

3319: 2

4161: 2

1464: 2

2780: 2

4724: 2

.

1008: 2

1570: 2 1406: 2

1952: 2

3404: 2

2487: 2

4516: 2

4805: 2

2220: 2

4004: 2

3690: 2

2985: 2

3623: 2 1292: 2

1861: 2

2636: 2

3331: 2

1875: 2

3638: 2

2582: 2

2095: 2

1048: 2

1010.

1046: 2

2227: 2

1744: 2

3819: 2

1539: 2

4063: 2 4976: 2

-- . - . -

1505: 2

2422: 2

3001: 2 4530: 2

3197: 1

2668: 1

1956: 1

4978: 1

2482: 1

4490: 1

4279: 1

2302: 1

2717: 1

4247: 1

3970: 1

3126: 1

3080: 1

3607: 1

2442: 1

3372: 1 4423: 1

4423.]

3367: 1 1352: 1

1002. 1

1925: 1

3991: 1

4732: 1

2456: 1 1745: 1

4775: 1

3536: 1

2414: 1 3565: 1

1084: 1

3826: 1

3136: 1

1447: 1

3335: 1

1089: 1

3576: 1

1560: 1

3740: 1

0, 10.

4587: 1

4973: 1

1556: 1

3362: 1

3627: 1

2497: 1

3223: 1

4904: 1

1579: 1

4200: 1

4181: 1

1272: 1

3431: 1

1243: 1

1673: 1

1227: 1

1250: 1

3314: 1

4083: 1

4590: 1

2373: 1

2213: 1

4980: 1

3377: 1

1552: 1

4491: 1

1433: 1 3155: 1

1071: 1

10/1. 1

1255: 1

1019: 1

1402: 1

3171: 1 4703: 1

4517: 1

1519: 1

1400: 1

1221: 1

3706: 1

4926: 1

2791: 1

4451: 1

1592: 1

3105: 1

3624: 1

3631: 1

0001.

1826: 1 3771: 1

1436: 1

2297: 1

3949: 1

4447: 1

4333: 1

3230: 1

2214: 1

4496: 1

2096: 1

3412: 1

2767: 1

4918: 1

4175: 1

2566: 1

3510: 1

3478: 1

1626: 1

3993: 1

1228: 1

3944: 1

4889: 1

4768: 1

2894: 1 2248: 1

3179: 1

3119.

1555: 1 3436: 1

1093: 1

2734: 1

2953: 1

1119: 1

1695: 1

4731: 1

2179: 1

3700: 1

3301: 1

3043: 1

3605: 1

1701: 1

2844: 1

1117: 1

1414: 1

1039: 1

2203: 1

1368: 1

4429: 1

3173: 1

2759: 1

2208: 1

4816: 1

2503: 1

4994: 1

2852: 1

4386: 1

1439: 1

2833: 1

4072: 1

3234: 1

4928: 1

1669: 1

1112: 1

3124: 1

3490: 1

2992: 1

1156: 1

3434: 1

1024: 1

1177: 1

1812: 1

4998: 1 4425: 1

4420. 1

2002: 1 4186: 1

1100. 1

2282: 1

4506: 1 2368: 1

2598: 1

2216: 1

4142: 1

4905: 1

.

1251: 1

4141: 1

3454: 1

2841: 1

1397: 1

3391: 1

3440: 1

4419: 1

4436: 1

3199: 1

4118: 1

1313: 1

4755: 1

2828: 1 3628: 1

1813: 1

1036: 1

4815: 1

3149: 1

3825: 1

4884: 1

3243: 1

2748: 1

4961: 1

2628: 1

3994: 1

3780: 1

4631: 1

3777: 1

4208: 1

3943: 1

2417: 1

1121: 1

3108: 1

4055: 1

4621: 1

1300: 1

2826: 1

2987: 1

1496: 1

2126: 1

2931: 1

4307: 1

1314: 1

4005: 1

1267: 1

3990: 1

2773: 1

2123: 1

2197: 1

4824: 1

2720: 1

2603: 1

4630: 1

3376: 1

3932: 1

3477: 1

4514: 1

3874: 1

2567: 1

3422: 1

3792: 1

4930: 1

4188: 1

3000: 1

3533: 1

2858: 1

1266: 1

1469: 1

4011: 1

4248: 1

3887: 1

3448: 1

1642: 1

2198: 1

4802: 1

3941: 1

3823: 1

3555: 1

3625: 1

1933: 1

3233: 1

4029: 1

2387: 1

1470: 1

1898: 1

3606: 1 4639: 1

1009. 1

2820: 1 4062: 1

2296: 1

1871: 1

1238: 1

4982: 1

3770: 1

2889: 1

4023: 1

4043: 1

3228: 1

3648: 1

2263: 1

2891: 1

4945: 1

4151: 1

3788: 1

4844: 1

1974: 1

4829: 1

3093: 1

1029: 1

3723: 1

2714: 1

1577: 1

1455: 1

4053: 1

2292: 1

3336: 1

3858: 1

2783: 1

3853: 1

2378: 1

4834: 1

4701: 1

3270: 1

2572: 1

3290: 1

1558: 1 3162: 1

3796: 1

1876: 1

2614: 1

3995: 1

2429: 1

3134: 1

1459: 1

1096: 1

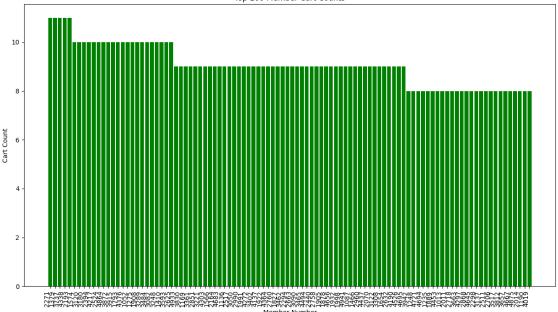
4795: 1

4366: 1

2895: 1

- 4949: 1
- 4602: 1
- 1960: 1
- 2474: 1
- 1953: 1
- 1989: 1
- 4521: 1
- 3845: 1
- 4737: 1
- 3345: 1
- 2136: 1
- 3097: 1
- 2752: 1
- 1688: 1
- 1976: 1
- 2988: 1
- 4885: 1
- 2968: 1
- 1973: 1
- 2281: 1
- 2684: 1
- 2103: 1
- 1375: 1
- 1775: 1
- 3152: 1
- 3503: 1
- 1667: 1
- 2021: 1
- 3824: 1
- 2558: 1 4454: 1
- 1963: 1
- 4565: 1





```
[]: def f4(file_path):
         rdd = sc.textFile(file_path)
         header = rdd.first()
         data = rdd.filter(lambda line: line != header).map(lambda line: line.
      ⇔split(','))
         # lấy cột member + tên
         member_item = data.map(lambda x: (x[0], x[2]))
         # Tinh số lương member_item
         member_item_counts = member_item.groupByKey().map(lambda x: (x[0],__
      \rightarrowlen(set(x[1]))))
         member_item_counts_collected = member_item_counts.collect()
         # Tìm hàng lớn nhất
         max_count = sorted(member_item_counts_collected, key=lambda x: x[1],__
      →reverse=True)[0][1]
         # Tìm tất cả giá tri trùng với gia tri max
         best_users = [(user[0], user[1]) for user in member_item_counts_collected_

if user[1] == max_count]
         #Tính ố lương người mua cho mỗi items
         item_counts = data.map(lambda x: (x[2], 1)).reduceByKey(lambda a, b: a + b)
```

```
item_counts_collected = item_counts.collect()
         # Tìm tất cả iteems có số lương người mua cao nhất
         max_buyers_count = sorted(item_counts_collected, key=lambda x: x[1],_
      ⇒reverse=True)[0][1]
         best items = [(item[0], item[1]) for item in item counts collected if
      →item[1] == max buyers count]
         #hiển thi
         print(f"Users with the most distinct items ({max_count} items):")
         for user in best_users:
             print(f"User {user[0]}: {user[1]} items")
         print(f"\nItems bought by the most users ({max_buyers_count} users):")
         for item in best_items:
             print(f"Item {item[0]}: {item[1]} users")
         # Ghi file
         output_directory = "/content/f4/"
         if not os.path.exists(output_directory):
             os.makedirs(output_directory)
         output_csv_path_users = os.path.join(output_directory, "f4_1.csv")
         with open(output_csv_path_users, mode='w', newline='') as file_users:
             writer_users = csv.writer(file_users)
             writer_users.writerow(['User', 'Count'])
             for user in best_users:
                 writer users.writerow([user[0], user[1]])
         output_csv_path_items = os.path.join(output_directory, "f4_2.csv")
         with open(output_csv_path_items, mode='w', newline='') as file_items:
             writer_items = csv.writer(file_items)
             writer_items.writerow(['Item', 'Count'])
             for item in best items:
                 writer_items.writerow([item[0], item[1]])
     f4("/content/baskets.csv")
    Users with the most distinct items (26 items):
    User 2051: 26 items
    User 1379: 26 items
    Items bought by the most users (2502 users):
    Item whole milk: 2502 users
    Ex2
[]: sqlc = SQLContext(sc)
     path = '/content/baskets.csv'
     df = sqlc.read.csv(path,header=True)
```

```
df.show()
df.printSchema()
```

```
itemDescription|year|month|day|day_of_week|
    |Member_number|
                         Date
    +----+
              1249 | 01/01/2014 |
                                     citrus fruit 2014
                                                           1 1
              1249 | 01/01/2014 |
                                           coffee|2014|
                                                           1 1
                                                                           2|
              1381 | 01/01/2014 |
                                             curd | 2014 |
                                                           1 1
                                                                           21
              1381 | 01/01/2014 |
                                             soda|2014|
                                                           1 1
                                                                           2|
              1440 | 01/01/2014 |
                                 other vegetables | 2014 |
                                                           1 1
                                                                           21
              1440 | 01/01/2014 |
                                                           1 1
                                                                           2|
                                           yogurt | 2014 |
              1659|01/01/2014| specialty chocolate|2014|
                                                           1 1
                                                                           21
                                                           1 1
              1659 | 01/01/2014 |
                                 frozen vegetables | 2014 |
                                                                           21
              1789 | 01/01/2014 |
                                   hamburger meat | 2014 |
                                                           1 1
              1789 | 01/01/2014 |
                                          candles 2014
                                                           1 11
                                                                           2|
              1922 | 01/01/2014 |
                                   tropical fruit | 2014 |
                                                           1 1
                                                                           21
              1922 | 01/01/2014 |
                                 other vegetables | 2014 |
                                                           1 1
                                                                           21
              2226 | 01/01/2014 |
                                          sausage | 2014 |
                                                           1 11
                                                                           2|
              2226 | 01/01/2014 |
                                    bottled water 2014
                                                           1 1
                                                                           2|
              2237 | 01/01/2014 |
                                    bottled water 2014
                                                           1 1
                                                                           2|
              2237|01/01/2014|Instant food prod...|2014|
                                                         1 1
              2351|01/01/2014|
                                          cleaner | 2014 |
                                                           1 1
                                                                           2|
              2351 | 01/01/2014 |
                                                                           21
                                     shopping bags 2014
                                                           1 1
              2542 | 01/01/2014 |
                                    sliced cheese 2014
                                                           1 1
                                                                           2|
              2542 | 01/01/2014 |
                                                                           21
                                    bottled water 2014
                                                           1 1
    only showing top 20 rows
    root
     |-- Member_number: string (nullable = true)
     |-- Date: string (nullable = true)
     |-- itemDescription: string (nullable = true)
     |-- year: string (nullable = true)
     |-- month: string (nullable = true)
     |-- day: string (nullable = true)
     |-- day_of_week: string (nullable = true)
[]: #Lấy data + sort theo date
    df = df.withColumn("Date", F.to_date(df["Date"], "dd/MM/yyyy"))
    df = df.orderBy("Date")
    #Lấy baskets
    Baskets = df.groupBy("Member_number", "Date").agg(
        F.collect_list("itemDescription").alias("items")
    Baskets = Baskets.withColumn("items",expr("array distinct(items)"))
```

```
Baskets = Baskets.withColumn("items", F.concat_ws(", ", "items"))
Baskets.show(truncate=False)
```

```
|Member_number|Date
                       litems
+----
1249
             |2014-01-01|citrus fruit, coffee
1381
             |2014-01-01|curd, soda
11440
             |2014-01-01|other vegetables, yogurt
             |2014-01-01|specialty chocolate, frozen vegetables
l 1659
             |2014-01-01|hamburger meat, candles
11789
             |2014-01-01|tropical fruit, other vegetables
1922
             |2014-01-01|sausage, bottled water
12226
12237
             |2014-01-01|bottled water, Instant food products
12351
             |2014-01-01|cleaner, shopping bags
             |2014-01-01|sliced cheese, bottled water
12542
             |2014-01-01|hamburger meat, bottled beer, domestic eggs
12610
12709
             |2014-01-01|yogurt, frozen vegetables
2727
             |2014-01-01|hamburger meat, frozen potato products
12943
             |2014-01-01|whole milk, flower (seeds)
             2014-01-01|berries, whipped/sour cream, bottled water
12974
3681
             |2014-01-01|onions, whipped/sour cream, dishes
13797
             |2014-01-01|waffles, whole milk
             |2014-01-01|other vegetables, yogurt, Instant food products|
13942
13956
             |2014-01-01|yogurt, shopping bags, waffles, chocolate
             |2014-01-01|soda, brown bread
14260
```

only showing top 20 rows

```
[]: for i in Baskets.collect(): print(i)
```

```
Streaming output truncated to the last 5000 lines.
```

Row(Member_number='3074', Date=datetime.date(2015, 4, 13), items='whole milk, margarine')

Row(Member_number='3339', Date=datetime.date(2015, 4, 13), items='meat,
margarine')

Row(Member_number='3353', Date=datetime.date(2015, 4, 13), items='sausage,
yogurt, baking powder')

Row(Member_number='3405', Date=datetime.date(2015, 4, 13), items='beef, ice cream, rolls/buns, pip fruit, whole milk, fruit/vegetable juice, UHT-milk') Row(Member_number='3629', Date=datetime.date(2015, 4, 13), items='chicken, tropical fruit')

Row(Member_number='3885', Date=datetime.date(2015, 4, 13), items='chocolate, seasonal products, rolls/buns')

Row(Member_number='4177', Date=datetime.date(2015, 4, 13), items='frankfurter, whole milk, grapes, butter, semi-finished bread')

```
Row(Member_number='4357', Date=datetime.date(2015, 4, 13), items='sausage,
chicken, canned beer, pip fruit')
Row(Member number='4389', Date=datetime.date(2015, 4, 13), items='white wine,
whole milk')
Row(Member number='4809', Date=datetime.date(2015, 4, 13), items='zwieback,
curd')
Row(Member number='4892', Date=datetime.date(2015, 4, 13), items='citrus fruit,
make up remover')
Row(Member number='1001', Date=datetime.date(2015, 4, 14), items='beef, white
bread')
Row(Member number='1240', Date=datetime.date(2015, 4, 14), items='frozen
vegetables, sausage, whole milk, rolls/buns, other vegetables, oil, frozen fish,
baking powder')
Row(Member_number='2193', Date=datetime.date(2015, 4, 14), items='beef, bottled
beer, specialty chocolate, yogurt, whole milk')
Row(Member_number='2336', Date=datetime.date(2015, 4, 14), items='chewing gum,
other vegetables')
Row(Member_number='2344', Date=datetime.date(2015, 4, 14), items='pip fruit,
onions, frozen fish, meat, semi-finished bread, root vegetables, bottled water,
whipped/sour cream')
Row(Member_number='2760', Date=datetime.date(2015, 4, 14), items='other
vegetables, soda')
Row(Member_number='2977', Date=datetime.date(2015, 4, 14), items='other
vegetables, chicken, popcorn, margarine')
Row(Member_number='3280', Date=datetime.date(2015, 4, 14), items='beef, tropical
fruit')
Row(Member number='3755', Date=datetime.date(2015, 4, 14), items='root
vegetables, hygiene articles')
Row(Member_number='3811', Date=datetime.date(2015, 4, 14), items='red/blush
wine, sausage, soda, whole milk, rolls/buns')
Row(Member_number='4352', Date=datetime.date(2015, 4, 14), items='frankfurter,
sausage, yogurt, soda, coffee')
Row(Member_number='4633', Date=datetime.date(2015, 4, 14), items='bottled water,
ham, brown bread, yogurt')
Row(Member number='4708', Date=datetime.date(2015, 4, 14), items='meat, other
vegetables, canned beer')
Row(Member number='1148', Date=datetime.date(2015, 4, 15), items='yogurt,
sausage, whole milk, shopping bags, white bread, dog food, baking powder, sliced
cheese')
Row(Member_number='1398', Date=datetime.date(2015, 4, 15), items='sausage, whole
milk, canned fruit, cake bar')
Row(Member_number='1666', Date=datetime.date(2015, 4, 15), items='sausage, long
life bakery product')
Row(Member_number='1776', Date=datetime.date(2015, 4, 15), items='bottled water,
canned beer')
Row(Member_number='1788', Date=datetime.date(2015, 4, 15), items='sausage,
canned beer')
Row(Member_number='2131', Date=datetime.date(2015, 4, 15), items='beef, yogurt')
```

```
Row(Member_number='2378', Date=datetime.date(2015, 4, 15), items='whipped/sour
cream, pork, pastry, soda')
Row(Member number='2502', Date=datetime.date(2015, 4, 15), items='soda, salt,
sauces, curd, sugar, margarine')
Row(Member number='3328', Date=datetime.date(2015, 4, 15), items='ham, napkins,
Row(Member number='3598', Date=datetime.date(2015, 4, 15), items='pork, UHT-
milk')
Row(Member number='3604', Date=datetime.date(2015, 4, 15), items='frozen fish,
bottled water')
Row(Member_number='3701', Date=datetime.date(2015, 4, 15), items='shopping bags,
long life bakery product')
Row(Member_number='3752', Date=datetime.date(2015, 4, 15), items='sweet spreads,
berries, whole milk, yogurt, pip fruit, root vegetables, specialty chocolate,
Row(Member number='3793', Date=datetime.date(2015, 4, 15), items='citrus fruit,
whole milk')
Row(Member number='3893', Date=datetime.date(2015, 4, 15), items='root
vegetables, whole milk')
Row(Member number='4119', Date=datetime.date(2015, 4, 15), items='beef, whole
Row(Member number='4152', Date=datetime.date(2015, 4, 15),
items='fruit/vegetable juice, sausage, whole milk, pip fruit')
Row(Member_number='4445', Date=datetime.date(2015, 4, 15), items='canned beer,
flour')
Row(Member_number='1062', Date=datetime.date(2015, 4, 16), items='tropical
fruit, whole milk, other vegetables, long life bakery product')
Row(Member_number='1502', Date=datetime.date(2015, 4, 16), items='butter milk,
sausage, UHT-milk, yogurt, canned beer')
Row(Member_number='1800', Date=datetime.date(2015, 4, 16), items='chicken,
bottled water, brown bread, hygiene articles')
Row(Member_number='2139', Date=datetime.date(2015, 4, 16), items='frankfurter,
citrus fruit, yogurt, frozen vegetables')
Row(Member_number='2179', Date=datetime.date(2015, 4, 16), items='dessert,
coffee, whole milk, cream cheese ')
Row(Member_number='2212', Date=datetime.date(2015, 4, 16), items='citrus fruit,
pastry, salt')
Row(Member_number='2325', Date=datetime.date(2015, 4, 16), items='pip fruit,
soda, jam')
Row(Member_number='2377', Date=datetime.date(2015, 4, 16), items='frankfurter,
butter, mustard')
Row(Member number='2883', Date=datetime.date(2015, 4, 16), items='oil, yogurt')
Row(Member_number='3202', Date=datetime.date(2015, 4, 16), items='yogurt,
newspapers')
Row(Member_number='3430', Date=datetime.date(2015, 4, 16),
items='fruit/vegetable juice, candy, hygiene articles')
Row(Member_number='3465', Date=datetime.date(2015, 4, 16), items='butter milk,
white wine')
```

```
Row(Member number='3947', Date=datetime.date(2015, 4, 16), items='rolls/buns,
packaged fruit/vegetables')
Row(Member number='3977', Date=datetime.date(2015, 4, 16), items='whole milk,
yogurt')
Row(Member number='4268', Date=datetime.date(2015, 4, 16), items='white bread,
nuts/prunes')
Row(Member number='4902', Date=datetime.date(2015, 4, 16), items='UHT-milk,
whole milk')
Row(Member number='1379', Date=datetime.date(2015, 4, 17), items='pastry, cream
cheese ')
Row(Member_number='1832', Date=datetime.date(2015, 4, 17), items='whipped/sour
cream, tropical fruit, specialty chocolate, flour')
Row(Member_number='1847', Date=datetime.date(2015, 4, 17), items='dessert,
rolls/buns')
Row(Member_number='2089', Date=datetime.date(2015, 4, 17), items='canned beer,
grapes, UHT-milk, brown bread')
Row(Member_number='2219', Date=datetime.date(2015, 4, 17), items='other
vegetables, beverages')
Row(Member_number='2393', Date=datetime.date(2015, 4, 17), items='onions,
grapes, yogurt, tropical fruit, whole milk, salty snack, root vegetables, frozen
dessert, whipped/sour cream')
Row(Member_number='2653', Date=datetime.date(2015, 4, 17), items='brown bread,
candy, chocolate')
Row(Member_number='2999', Date=datetime.date(2015, 4, 17), items='beef, canned
beer')
Row(Member number='3617', Date=datetime.date(2015, 4, 17), items='beef, other
vegetables')
Row(Member_number='4411', Date=datetime.date(2015, 4, 17), items='meat, pip
fruit, beverages, soda')
Row(Member_number='4456', Date=datetime.date(2015, 4, 17), items='soda, other
vegetables, dishes')
Row(Member_number='4505', Date=datetime.date(2015, 4, 17), items='tropical
fruit, dishes, other vegetables')
Row(Member_number='4940', Date=datetime.date(2015, 4, 17), items='liquor, cream,
coffee')
Row(Member_number='1497', Date=datetime.date(2015, 4, 18), items='sausage,
liquor (appetizer), coffee')
Row(Member_number='1547', Date=datetime.date(2015, 4, 18), items='pickled
vegetables, soda')
Row(Member_number='1574', Date=datetime.date(2015, 4, 18), items='other
vegetables, whipped/sour cream')
Row(Member_number='1743', Date=datetime.date(2015, 4, 18), items='sliced cheese,
dessert, cream cheese ')
Row(Member_number='1767', Date=datetime.date(2015, 4, 18), items='meat,
rolls/buns')
Row(Member_number='1768', Date=datetime.date(2015, 4, 18), items='butter milk,
long life bakery product')
Row(Member number='1904', Date=datetime.date(2015, 4, 18), items='whole milk,
```

```
yogurt')
Row(Member_number='1930', Date=datetime.date(2015, 4, 18), items='pork,
mayonnaise')
Row(Member_number='2467', Date=datetime.date(2015, 4, 18), items='light bulbs,
yogurt')
Row(Member_number='2699', Date=datetime.date(2015, 4, 18), items='other
vegetables, whole milk')
Row(Member_number='2805', Date=datetime.date(2015, 4, 18), items='coffee,
packaged fruit/vegetables, bottled water, pastry')
Row(Member_number='2857', Date=datetime.date(2015, 4, 18), items='whole milk,
tropical fruit, liquor (appetizer), soda')
Row(Member number='2879', Date=datetime.date(2015, 4, 18), items='hair spray,
chocolate, rolls/buns')
Row(Member_number='3212', Date=datetime.date(2015, 4, 18), items='ham, whole
Row(Member_number='3268', Date=datetime.date(2015, 4, 18), items='dessert,
margarine')
Row(Member_number='3443', Date=datetime.date(2015, 4, 18), items='chicken, pip
fruit')
Row(Member number='4078', Date=datetime.date(2015, 4, 18), items='berries,
shopping bags')
Row(Member number='4147', Date=datetime.date(2015, 4, 18), items='canned beer,
flour, newspapers')
Row(Member_number='4228', Date=datetime.date(2015, 4, 18), items='tropical
fruit, cooking chocolate')
Row(Member_number='4320', Date=datetime.date(2015, 4, 18), items='canned beer,
sausage, onions')
Row(Member_number='4541', Date=datetime.date(2015, 4, 18), items='coffee,
hygiene articles, yogurt')
Row(Member_number='4661', Date=datetime.date(2015, 4, 18), items='chicken,
flower (seeds), onions, rolls/buns')
Row(Member_number='4878', Date=datetime.date(2015, 4, 18), items='citrus fruit,
whole milk')
Row(Member_number='1178', Date=datetime.date(2015, 4, 19), items='other
vegetables, ice cream, pork, salt')
Row(Member_number='1211', Date=datetime.date(2015, 4, 19), items='UHT-milk,
other vegetables')
Row(Member_number='1254', Date=datetime.date(2015, 4, 19), items='white wine,
specialty bar, specialty chocolate')
Row(Member_number='1466', Date=datetime.date(2015, 4, 19), items='beef, root
vegetables')
Row(Member_number='1752', Date=datetime.date(2015, 4, 19), items='pip fruit,
butter milk')
Row(Member number='2037', Date=datetime.date(2015, 4, 19), items='organic
sausage, grapes, pastry')
Row(Member_number='2344', Date=datetime.date(2015, 4, 19), items='ham, cream
cheese , other vegetables, oil, candy')
Row(Member_number='2719', Date=datetime.date(2015, 4, 19), items='citrus fruit,
```

```
soda, berries, coffee, sugar')
Row(Member_number='2916', Date=datetime.date(2015, 4, 19), items='pastry, frozen
vegetables')
Row(Member_number='3084', Date=datetime.date(2015, 4, 19), items='hamburger
meat, salt')
Row(Member_number='3138', Date=datetime.date(2015, 4, 19), items='other
vegetables, brown bread, hard cheese, salty snack')
Row(Member_number='3523', Date=datetime.date(2015, 4, 19), items='rolls/buns')
Row(Member number='3700', Date=datetime.date(2015, 4, 19), items='other
vegetables, whole milk, soda')
Row(Member_number='3999', Date=datetime.date(2015, 4, 19), items='yogurt,
sausage, whipped/sour cream, onions')
Row(Member_number='4004', Date=datetime.date(2015, 4, 19), items='coffee, citrus
Row(Member_number='4160', Date=datetime.date(2015, 4, 19), items='turkey, root
vegetables')
Row(Member_number='4498', Date=datetime.date(2015, 4, 19), items='other
vegetables, chocolate')
Row(Member_number='4610', Date=datetime.date(2015, 4, 19), items='pip fruit,
hamburger meat, brown bread, cream cheese, curd')
Row(Member_number='4891', Date=datetime.date(2015, 4, 19), items='cookware,
cream cheese ')
Row(Member_number='4923', Date=datetime.date(2015, 4, 19), items='other
vegetables, rolls/buns, soda')
Row(Member_number='4977', Date=datetime.date(2015, 4, 19), items='whole milk,
bottled beer, rolls/buns')
Row(Member_number='1152', Date=datetime.date(2015, 4, 20), items='soda, frozen
meals')
Row(Member number='1380', Date=datetime.date(2015, 4, 20), items='candy, cake
Row(Member_number='1392', Date=datetime.date(2015, 4, 20), items='specialty bar,
cream cheese ')
Row(Member number='1527', Date=datetime.date(2015, 4, 20), items='citrus fruit,
rolls/buns, napkins, soda')
Row(Member number='1599', Date=datetime.date(2015, 4, 20), items='semi-finished
bread, whole milk')
Row (Member number='1821', Date=datetime.date(2015, 4, 20), items='root
vegetables, frozen vegetables, misc. beverages')
Row(Member_number='1890', Date=datetime.date(2015, 4, 20), items='berries,
Row(Member_number='2005', Date=datetime.date(2015, 4, 20), items='pork, yogurt,
soda')
Row(Member_number='2018', Date=datetime.date(2015, 4, 20), items='chicken,
curd')
Row(Member_number='2051', Date=datetime.date(2015, 4, 20), items='whole milk,
pork, brown bread, other vegetables')
Row(Member_number='2209', Date=datetime.date(2015, 4, 20), items='bottled beer,
rolls/buns, other vegetables')
```

```
Row(Member number='2509', Date=datetime.date(2015, 4, 20), items='root
vegetables, ham')
Row(Member_number='2550', Date=datetime.date(2015, 4, 20), items='shopping bags,
red/blush wine, butter')
Row(Member number='3128', Date=datetime.date(2015, 4, 20), items='sausage,
butter, specialty bar, soda, whipped/sour cream')
Row(Member number='3596', Date=datetime.date(2015, 4, 20), items='other
vegetables, citrus fruit, canned beer')
Row(Member number='3735', Date=datetime.date(2015, 4, 20), items='rolls/buns,
seasonal products, margarine')
Row(Member_number='4408', Date=datetime.date(2015, 4, 20), items='pork, butter')
Row(Member number='4710', Date=datetime.date(2015, 4, 20), items='cat food,
pasta')
Row(Member number='1768', Date=datetime.date(2015, 4, 21), items='chicken,
finished products, rolls/buns, butter, herbs, white bread')
Row(Member_number='1777', Date=datetime.date(2015, 4, 21), items='beef, tropical
fruit')
Row(Member number='1901', Date=datetime.date(2015, 4, 21), items='citrus fruit,
tropical fruit')
Row(Member number='2043', Date=datetime.date(2015, 4, 21), items='tropical
fruit, other vegetables, pastry, long life bakery product, bottled water, UHT-
milk, fruit/vegetable juice')
Row(Member_number='2080', Date=datetime.date(2015, 4, 21), items='tropical
fruit, whole milk')
Row(Member_number='2359', Date=datetime.date(2015, 4, 21), items='pastry, whole
milk, other vegetables, rolls/buns')
Row(Member number='2449', Date=datetime.date(2015, 4, 21), items='bottled beer,
yogurt')
Row(Member_number='2643', Date=datetime.date(2015, 4, 21), items='tropical
fruit, whole milk')
Row(Member_number='2745', Date=datetime.date(2015, 4, 21), items='berries, other
vegetables')
Row(Member number='3025', Date=datetime.date(2015, 4, 21), items='citrus fruit,
sausage, bottled beer, herbs')
Row(Member number='3139', Date=datetime.date(2015, 4, 21), items='tropical
fruit, onions, whipped/sour cream')
Row(Member number='3476', Date=datetime.date(2015, 4, 21), items='bottled water,
detergent, domestic eggs, yogurt')
Row(Member_number='3500', Date=datetime.date(2015, 4, 21), items='soda, canned
beer, frozen dessert, tropical fruit, whole milk, bottled water, specialty bar,
domestic eggs')
Row(Member_number='3515', Date=datetime.date(2015, 4, 21), items='pip fruit,
root vegetables')
Row(Member number='3677', Date=datetime.date(2015, 4, 21), items='mayonnaise,
pet care')
Row(Member number='3781', Date=datetime.date(2015, 4, 21), items='root
vegetables, frozen dessert, beverages')
Row(Member number='3866', Date=datetime.date(2015, 4, 21), items='root
```

```
vegetables, bottled water')
Row(Member_number='4016', Date=datetime.date(2015, 4, 21), items='pork, yogurt')
Row(Member number='4052', Date=datetime.date(2015, 4, 21), items='bottled beer,
whole milk, shopping bags')
Row(Member number='4907', Date=datetime.date(2015, 4, 21), items='citrus fruit,
whole milk')
Row(Member number='1033', Date=datetime.date(2015, 4, 22), items='tropical
fruit, soda, rolls/buns')
Row(Member_number='1202', Date=datetime.date(2015, 4, 22), items='yogurt,
rolls/buns')
Row(Member number='1709', Date=datetime.date(2015, 4, 22), items='sausage, root
vegetables')
Row(Member_number='1777', Date=datetime.date(2015, 4, 22), items='tropical
fruit, whole milk')
Row(Member_number='2085', Date=datetime.date(2015, 4, 22), items='soda, candy')
Row(Member number='2171', Date=datetime.date(2015, 4, 22), items='beef, ice
cream')
Row(Member number='2505', Date=datetime.date(2015, 4, 22), items='yogurt, whole
milk')
Row(Member number='2634', Date=datetime.date(2015, 4, 22), items='berries,
whipped/sour cream, other vegetables, newspapers')
Row(Member number='2640', Date=datetime.date(2015, 4, 22), items='other
vegetables')
Row(Member_number='2837', Date=datetime.date(2015, 4, 22), items='whole milk,
yogurt')
Row(Member number='3456', Date=datetime.date(2015, 4, 22), items='soda, other
vegetables')
Row(Member number='3899', Date=datetime.date(2015, 4, 22), items='rolls/buns,
sausage, curd, whole milk, butter milk, margarine, white bread, yogurt')
Row(Member_number='4100', Date=datetime.date(2015, 4, 22), items='sausage, whole
milk, pastry')
Row(Member_number='4258', Date=datetime.date(2015, 4, 22), items='beef, whole
milk, fruit/vegetable juice, hygiene articles')
Row(Member_number='4285', Date=datetime.date(2015, 4, 22),
items='fruit/vegetable juice, roll products ')
Row(Member_number='4312', Date=datetime.date(2015, 4, 22), items='tropical
fruit, whole milk, shopping bags')
Row(Member_number='4524', Date=datetime.date(2015, 4, 22), items='whole milk,
ice cream, soda, yogurt, spices')
Row(Member_number='4799', Date=datetime.date(2015, 4, 22), items='citrus fruit,
roll products ')
Row(Member number='4890', Date=datetime.date(2015, 4, 22), items='rolls/buns,
whole milk, other vegetables')
Row(Member number='4950', Date=datetime.date(2015, 4, 22), items='rolls/buns,
instant coffee, UHT-milk, margarine')
Row(Member_number='1016', Date=datetime.date(2015, 4, 23), items='soft cheese,
pip fruit')
Row(Member_number='1038', Date=datetime.date(2015, 4, 23), items='pip fruit,
```

```
herbs, frozen meals')
Row(Member_number='1832', Date=datetime.date(2015, 4, 23), items='berries,
sauces')
Row(Member_number='2512', Date=datetime.date(2015, 4, 23), items='canned beer,
ham, bottled water, domestic eggs')
Row(Member_number='2592', Date=datetime.date(2015, 4, 23), items='sugar,
fruit/vegetable juice, margarine')
Row(Member_number='2769', Date=datetime.date(2015, 4, 23), items='bottled water,
frozen dessert, root vegetables')
Row(Member_number='3380', Date=datetime.date(2015, 4, 23), items='pork, flour')
Row(Member_number='3882', Date=datetime.date(2015, 4, 23), items='finished
products, whole milk, other vegetables, cling film/bags')
Row(Member_number='4163', Date=datetime.date(2015, 4, 23), items='specialty
chocolate, liquor')
Row(Member_number='4293', Date=datetime.date(2015, 4, 23), items='other
vegetables, whole milk, Instant food products')
Row(Member_number='4467', Date=datetime.date(2015, 4, 23), items='other
vegetables, pork, newspapers')
Row(Member_number='4975', Date=datetime.date(2015, 4, 23), items='other
vegetables, pip fruit')
Row(Member_number='1035', Date=datetime.date(2015, 4, 24), items='whole milk,
yogurt, rolls/buns')
Row (Member number='1290', Date=datetime.date(2015, 4, 24), items='other
vegetables, frankfurter, whole milk, sausage, misc. beverages, margarine,
yogurt, frozen meals, cat food')
Row(Member_number='1435', Date=datetime.date(2015, 4, 24), items='ham, yogurt,
hard cheese, rolls/buns')
Row(Member number='1789', Date=datetime.date(2015, 4, 24), items='pip fruit,
male cosmetics')
Row(Member number='1892', Date=datetime.date(2015, 4, 24), items='whole milk,
shopping bags, yogurt, canned beer')
Row(Member_number='1945', Date=datetime.date(2015, 4, 24), items='canned beer,
whipped/sour cream')
Row(Member_number='2128', Date=datetime.date(2015, 4, 24), items='rolls/buns,
frozen meals')
Row(Member_number='2346', Date=datetime.date(2015, 4, 24), items='tropical
fruit, specialty cheese')
Row(Member_number='2499', Date=datetime.date(2015, 4, 24), items='root
vegetables, butter, frozen vegetables')
Row(Member_number='3215', Date=datetime.date(2015, 4, 24), items='frankfurter,
curd, specialty cheese')
Row(Member number='3347', Date=datetime.date(2015, 4, 24), items='whole milk,
pastry, margarine')
Row(Member_number='3690', Date=datetime.date(2015, 4, 24), items='spread cheese,
frankfurter, ice cream, citrus fruit, pip fruit, cake bar, other vegetables,
yogurt, rolls/buns')
Row(Member_number='4022', Date=datetime.date(2015, 4, 24), items='chicken,
herbs, soda')
```

```
Row(Member_number='4122', Date=datetime.date(2015, 4, 24), items='tropical
fruit, rolls/buns')
Row(Member_number='4693', Date=datetime.date(2015, 4, 24), items='canned beer,
whipped/sour cream')
Row(Member number='4979', Date=datetime.date(2015, 4, 24), items='coffee,
rolls/buns, soda')
Row(Member number='1081', Date=datetime.date(2015, 4, 25), items='coffee, butter
milk')
Row(Member number='1143', Date=datetime.date(2015, 4, 25), items='soda, whole
milk, sugar')
Row(Member_number='1270', Date=datetime.date(2015, 4, 25), items='pork,
napkins')
Row(Member_number='1372', Date=datetime.date(2015, 4, 25), items='soda, white
bread, fruit/vegetable juice')
Row(Member_number='1483', Date=datetime.date(2015, 4, 25), items='brown bread,
soda')
Row(Member_number='1858', Date=datetime.date(2015, 4, 25), items='packaged
fruit/vegetables, yogurt')
Row(Member_number='2584', Date=datetime.date(2015, 4, 25), items='shopping bags,
soap')
Row(Member_number='2761', Date=datetime.date(2015, 4, 25), items='citrus fruit,
rolls/buns')
Row(Member_number='3301', Date=datetime.date(2015, 4, 25), items='soda, cream
cheese ')
Row(Member_number='3322', Date=datetime.date(2015, 4, 25), items='ham, citrus
fruit')
Row(Member number='3558', Date=datetime.date(2015, 4, 25), items='whole milk,
soft cheese, soda, brown bread')
Row(Member_number='3752', Date=datetime.date(2015, 4, 25), items='canned beer,
root vegetables')
Row(Member number='3937', Date=datetime.date(2015, 4, 25), items='white wine,
citrus fruit')
Row(Member_number='4078', Date=datetime.date(2015, 4, 25), items='frankfurter,
specialty chocolate, pip fruit')
Row(Member number='4262', Date=datetime.date(2015, 4, 25), items='whole milk,
other vegetables, newspapers')
Row(Member number='4268', Date=datetime.date(2015, 4, 25), items='rolls/buns,
semi-finished bread, dessert, yogurt')
Row(Member_number='4728', Date=datetime.date(2015, 4, 25), items='beef,
chocolate marshmallow, margarine')
Row(Member_number='1002', Date=datetime.date(2015, 4, 26), items='tropical
fruit, sugar')
Row(Member_number='1114', Date=datetime.date(2015, 4, 26), items='chicken,
shopping bags')
Row(Member_number='1186', Date=datetime.date(2015, 4, 26), items='other
vegetables, whole milk, canned fruit')
Row(Member_number='2629', Date=datetime.date(2015, 4, 26), items='curd cheese,
whole milk, long life bakery product, hard cheese')
```

```
Row(Member number='2882', Date=datetime.date(2015, 4, 26), items='sausage,
chewing gum')
Row(Member_number='2890', Date=datetime.date(2015, 4, 26), items='fish,
newspapers')
Row(Member number='2920', Date=datetime.date(2015, 4, 26), items='whole milk,
hard cheese')
Row(Member number='2962', Date=datetime.date(2015, 4, 26), items='citrus fruit,
long life bakery product')
Row(Member_number='3288', Date=datetime.date(2015, 4, 26), items='brown bread,
whole milk')
Row(Member_number='3375', Date=datetime.date(2015, 4, 26), items='frankfurter,
dog food')
Row(Member_number='3429', Date=datetime.date(2015, 4, 26), items='frankfurter,
seasonal products, rolls/buns')
Row(Member_number='3451', Date=datetime.date(2015, 4, 26), items='tropical
fruit, whole milk')
Row(Member_number='3523', Date=datetime.date(2015, 4, 26), items='newspapers,
salty snack, pastry')
Row(Member_number='4235', Date=datetime.date(2015, 4, 26), items='citrus fruit,
other vegetables')
Row(Member_number='4306', Date=datetime.date(2015, 4, 26), items='domestic eggs,
brown bread, detergent')
Row(Member_number='4315', Date=datetime.date(2015, 4, 26), items='citrus fruit,
soda, butter, bottled water, bottled beer')
Row(Member_number='4327', Date=datetime.date(2015, 4, 26), items='citrus fruit,
jam')
Row(Member_number='4459', Date=datetime.date(2015, 4, 26), items='tropical
fruit, soda, frozen meals')
Row(Member number='4524', Date=datetime.date(2015, 4, 26), items='citrus fruit,
pastry')
Row(Member_number='4633', Date=datetime.date(2015, 4, 26), items='tropical
fruit, citrus fruit, bottled water, rolls/buns, soda, pickled vegetables')
Row(Member_number='4778', Date=datetime.date(2015, 4, 26), items='sausage, oil')
Row(Member_number='4984', Date=datetime.date(2015, 4, 26), items='bottled beer,
yogurt, soda')
Row(Member_number='1197', Date=datetime.date(2015, 4, 27), items='citrus fruit,
Row(Member_number='2165', Date=datetime.date(2015, 4, 27), items='chicken,
coffee')
Row(Member_number='2255', Date=datetime.date(2015, 4, 27), items='frankfurter,
packaged fruit/vegetables')
Row(Member number='2980', Date=datetime.date(2015, 4, 27), items='bottled beer,
butter milk')
Row(Member number='3144', Date=datetime.date(2015, 4, 27), items='tropical
fruit, pip fruit, rolls/buns')
Row(Member_number='3450', Date=datetime.date(2015, 4, 27), items='other
vegetables, meat, salty snack')
Row(Member number='3458', Date=datetime.date(2015, 4, 27), items='citrus fruit,
```

```
butter')
Row(Member_number='3701', Date=datetime.date(2015, 4, 27), items='mayonnaise,
decalcifier')
Row(Member_number='3735', Date=datetime.date(2015, 4, 27), items='berries, pet
care')
Row(Member_number='4025', Date=datetime.date(2015, 4, 27), items='other
vegetables, long life bakery product')
Row(Member_number='4112', Date=datetime.date(2015, 4, 27), items='pip fruit, ice
cream, popcorn, soda, bottled water, rolls/buns')
Row(Member_number='4113', Date=datetime.date(2015, 4, 27), items='UHT-milk,
margarine')
Row(Member number='4336', Date=datetime.date(2015, 4, 27), items='whole milk,
whipped/sour cream, newspapers')
Row(Member_number='4608', Date=datetime.date(2015, 4, 27), items='frankfurter,
ketchup')
Row(Member_number='4834', Date=datetime.date(2015, 4, 27), items='frankfurter,
dessert')
Row(Member number='4873', Date=datetime.date(2015, 4, 27), items='rolls/buns,
hard cheese')
Row(Member number='1276', Date=datetime.date(2015, 4, 28), items='sausage, whole
milk, rolls/buns, bottled beer')
Row(Member_number='1542', Date=datetime.date(2015, 4, 28), items='curd, yogurt')
Row(Member_number='1643', Date=datetime.date(2015, 4, 28), items='yogurt,
rolls/buns')
Row(Member_number='1855', Date=datetime.date(2015, 4, 28), items='chicken,
canned beer, frozen vegetables, whipped/sour cream')
Row(Member_number='2225', Date=datetime.date(2015, 4, 28), items='pork,
rolls/buns, brown bread, yogurt')
Row(Member_number='2300', Date=datetime.date(2015, 4, 28), items='sausage, white
wine, hygiene articles')
Row(Member_number='2757', Date=datetime.date(2015, 4, 28), items='beef,
condensed milk, specialty chocolate')
Row(Member number='2947', Date=datetime.date(2015, 4, 28), items='ham, tropical
fruit, bottled beer')
Row(Member number='3153', Date=datetime.date(2015, 4, 28), items='canned beer,
cake bar, newspapers, pastry, baking powder, yogurt')
Row(Member_number='3166', Date=datetime.date(2015, 4, 28), items='pork, hygiene
articles')
Row(Member_number='3298', Date=datetime.date(2015, 4, 28), items='roll products
, sausage, prosecco, chocolate')
Row(Member_number='3427', Date=datetime.date(2015, 4, 28), items='curd, other
vegetables')
Row(Member_number='3614', Date=datetime.date(2015, 4, 28), items='tropical
fruit, pastry')
Row(Member_number='3659', Date=datetime.date(2015, 4, 28), items='whole milk')
Row(Member_number='3794', Date=datetime.date(2015, 4, 28), items='meat, bottled
water, soda')
Row(Member number='3929', Date=datetime.date(2015, 4, 28), items='root
```

```
vegetables, frozen vegetables')
Row(Member_number='4018', Date=datetime.date(2015, 4, 28), items='hamburger
meat, whole milk')
Row(Member_number='4191', Date=datetime.date(2015, 4, 28), items='other
vegetables, chicken')
Row(Member_number='4216', Date=datetime.date(2015, 4, 28), items='sausage,
Row(Member_number='4334', Date=datetime.date(2015, 4, 28),
items='fruit/vegetable juice, candy')
Row(Member_number='4788', Date=datetime.date(2015, 4, 28), items='beef, butter
milk, yogurt, soda')
Row(Member_number='4852', Date=datetime.date(2015, 4, 28), items='yogurt, spread
cheese, soda, fruit/vegetable juice')
Row(Member_number='1126', Date=datetime.date(2015, 4, 29), items='misc.
beverages, whole milk, long life bakery product')
Row(Member_number='1135', Date=datetime.date(2015, 4, 29), items='whole milk,
other vegetables')
Row(Member_number='1331', Date=datetime.date(2015, 4, 29), items='sausage,
whipped/sour cream, misc. beverages')
Row(Member number='1407', Date=datetime.date(2015, 4, 29), items='root
vegetables, frankfurter, fruit/vegetable juice, bottled water, rolls/buns,
detergent, bottled beer, male cosmetics')
Row(Member_number='1654', Date=datetime.date(2015, 4, 29), items='dish cleaner,
rolls/buns, frozen potato products, frozen vegetables')
Row(Member_number='2415', Date=datetime.date(2015, 4, 29), items='tropical
fruit, coffee, softener, soda')
Row(Member_number='2565', Date=datetime.date(2015, 4, 29), items='tropical
fruit, root vegetables, pip fruit, butter milk, waffles, bottled beer')
Row(Member_number='2589', Date=datetime.date(2015, 4, 29), items='ice cream,
fruit/vegetable juice, cereals')
Row(Member_number='2600', Date=datetime.date(2015, 4, 29), items='frozen potato
products, female sanitary products, whole milk, other vegetables,
fruit/vegetable juice')
Row(Member_number='2670', Date=datetime.date(2015, 4, 29), items='yogurt,
berries, onions, pip fruit')
Row(Member_number='2745', Date=datetime.date(2015, 4, 29), items='meat, coffee')
Row(Member number='2869', Date=datetime.date(2015, 4, 29), items='whole milk,
curd, yogurt')
Row(Member_number='3255', Date=datetime.date(2015, 4, 29), items='pork, soda,
other vegetables, ice cream')
Row(Member_number='3763', Date=datetime.date(2015, 4, 29), items='canned beer,
coffee, flour')
Row(Member_number='4240', Date=datetime.date(2015, 4, 29), items='yogurt,
chicken, soda')
Row(Member_number='4314', Date=datetime.date(2015, 4, 29), items='finished
products, bottled beer')
Row(Member_number='4375', Date=datetime.date(2015, 4, 29), items='tropical
fruit, soda, canned beer')
```

```
Row(Member number='1304', Date=datetime.date(2015, 4, 30), items='rolls/buns,
whipped/sour cream, dishes')
Row(Member_number='1323', Date=datetime.date(2015, 4, 30), items='soups, whole
milk, beef, bottled beer')
Row(Member number='1332', Date=datetime.date(2015, 4, 30), items='pastry, whole
milk')
Row(Member number='1566', Date=datetime.date(2015, 4, 30), items='grapes,
ketchup')
Row(Member number='1923', Date=datetime.date(2015, 4, 30), items='canned beer,
other vegetables')
Row(Member number='1945', Date=datetime.date(2015, 4, 30), items='chocolate,
whole milk, hamburger meat, other vegetables')
Row(Member_number='2073', Date=datetime.date(2015, 4, 30), items='rolls/buns,
canned fish, chocolate')
Row(Member_number='2159', Date=datetime.date(2015, 4, 30), items='rolls/buns,
female sanitary products')
Row(Member_number='2601', Date=datetime.date(2015, 4, 30), items='beef,
specialty chocolate')
Row(Member_number='2689', Date=datetime.date(2015, 4, 30), items='curd,
nuts/prunes, root vegetables, sausage, whole milk, rolls/buns, bottled water,
hard cheese')
Row(Member number='2724', Date=datetime.date(2015, 4, 30), items='ice cream,
specialty chocolate, semi-finished bread')
Row(Member_number='3088', Date=datetime.date(2015, 4, 30), items='canned beer,
chocolate')
Row(Member number='3164', Date=datetime.date(2015, 4, 30), items='pork')
Row(Member number='3326', Date=datetime.date(2015, 4, 30), items='rolls/buns,
chicken')
Row(Member number='3327', Date=datetime.date(2015, 4, 30), items='soda, brown
Row(Member_number='3445', Date=datetime.date(2015, 4, 30), items='soda, tropical
Row(Member_number='3472', Date=datetime.date(2015, 4, 30), items='frankfurter,
mayonnaise, whipped/sour cream, pastry, misc. beverages')
Row(Member number='3677', Date=datetime.date(2015, 4, 30), items='citrus fruit,
tropical fruit, canned fish')
Row(Member number='3704', Date=datetime.date(2015, 4, 30), items='chocolate,
white wine, newspapers')
Row(Member_number='3855', Date=datetime.date(2015, 4, 30), items='pork, oil')
Row(Member_number='3878', Date=datetime.date(2015, 4, 30), items='photo/film,
pip fruit, butter, liquor (appetizer), bottled beer, sweet spreads')
Row(Member_number='4002', Date=datetime.date(2015, 4, 30), items='sausage, white
Row(Member_number='4042', Date=datetime.date(2015, 4, 30), items='yogurt, citrus
Row(Member number='4101', Date=datetime.date(2015, 4, 30), items='bottled beer,
red/blush wine')
Row(Member_number='4166', Date=datetime.date(2015, 4, 30), items='bottled water,
```

```
mustard')
Row(Member_number='4588', Date=datetime.date(2015, 4, 30), items='bottled beer,
tropical fruit, newspapers, whole milk, soft cheese, hard cheese, white wine')
Row(Member_number='4612', Date=datetime.date(2015, 4, 30), items='sausage, other
vegetables')
Row(Member_number='4701', Date=datetime.date(2015, 4, 30), items='soda, pip
fruit, popcorn, pasta, whole milk, dental care')
Row(Member_number='1536', Date=datetime.date(2015, 5, 1), items='frankfurter,
canned beer, pastry, yogurt')
Row(Member_number='1783', Date=datetime.date(2015, 5, 1), items='other
vegetables, pip fruit')
Row(Member_number='2144', Date=datetime.date(2015, 5, 1), items='onions, other
vegetables')
Row(Member_number='2274', Date=datetime.date(2015, 5, 1), items='citrus fruit,
rolls/buns')
Row(Member number='2305', Date=datetime.date(2015, 5, 1), items='canned beer,
cream cheese ')
Row(Member number='2500', Date=datetime.date(2015, 5, 1), items='onions,
grapes')
Row(Member_number='2507', Date=datetime.date(2015, 5, 1), items='canned beer,
bottled water, long life bakery product')
Row(Member number='2552', Date=datetime.date(2015, 5, 1), items='whole milk,
tropical fruit, chocolate')
Row(Member_number='2655', Date=datetime.date(2015, 5, 1), items='sausage,
pastry, shopping bags')
Row(Member_number='2874', Date=datetime.date(2015, 5, 1), items='sausage,
hygiene articles, ice cream')
Row(Member_number='2985', Date=datetime.date(2015, 5, 1), items='tropical fruit,
chicken, soda')
Row(Member number='3043', Date=datetime.date(2015, 5, 1), items='beef, soda')
Row(Member_number='3044', Date=datetime.date(2015, 5, 1), items='sausage,
bottled water, brown bread')
Row(Member number='3077', Date=datetime.date(2015, 5, 1), items='chicken, whole
milk, vinegar, shopping bags')
Row(Member number='3154', Date=datetime.date(2015, 5, 1), items='rolls/buns,
shopping bags')
Row(Member number='4059', Date=datetime.date(2015, 5, 1), items='frankfurter,
whole milk')
Row(Member_number='4075', Date=datetime.date(2015, 5, 1), items='turkey, bottled
water')
Row(Member_number='4324', Date=datetime.date(2015, 5, 1), items='sausage,
pastry, tropical fruit, whole milk, white wine, sweet spreads')
Row(Member_number='4335', Date=datetime.date(2015, 5, 1), items='pot plants,
other vegetables')
Row(Member_number='4608', Date=datetime.date(2015, 5, 1), items='whole milk,
hamburger meat, canned beer, fruit/vegetable juice')
Row(Member_number='4636', Date=datetime.date(2015, 5, 1), items='yogurt, sauces,
specialty chocolate')
```

```
Row(Member number='4695', Date=datetime.date(2015, 5, 1), items='root
vegetables, yogurt, soda, shopping bags, oil')
Row(Member number='1360', Date=datetime.date(2015, 5, 2), items='root
vegetables, grapes, white bread, dishes')
Row(Member number='1597', Date=datetime.date(2015, 5, 2), items='UHT-milk, whole
milk')
Row(Member number='1628', Date=datetime.date(2015, 5, 2), items='chicken,
yogurt')
Row(Member number='1631', Date=datetime.date(2015, 5, 2), items='domestic eggs,
mayonnaise, coffee')
Row(Member number='1672', Date=datetime.date(2015, 5, 2), items='pip fruit,
brandy')
Row(Member_number='1790', Date=datetime.date(2015, 5, 2), items='pork, other
vegetables')
Row(Member_number='1945', Date=datetime.date(2015, 5, 2), items='curd, bottled
water, tropical fruit, other vegetables')
Row(Member_number='2022', Date=datetime.date(2015, 5, 2), items='frankfurter,
fruit/vegetable juice, hard cheese, whole milk, rolls/buns')
Row(Member_number='2257', Date=datetime.date(2015, 5, 2), items='herbs, whole
milk')
Row(Member_number='2691', Date=datetime.date(2015, 5, 2), items='citrus fruit,
pip fruit')
Row(Member_number='2964', Date=datetime.date(2015, 5, 2), items='frankfurter,
hard cheese')
Row(Member_number='3049', Date=datetime.date(2015, 5, 2), items='beef, yogurt')
Row(Member_number='3119', Date=datetime.date(2015, 5, 2), items='sausage,
chicken')
Row(Member number='3122', Date=datetime.date(2015, 5, 2), items='beverages,
sausage, white bread, bottled water')
Row(Member_number='3176', Date=datetime.date(2015, 5, 2), items='pork, red/blush
wine')
Row(Member_number='3414', Date=datetime.date(2015, 5, 2), items='liquor, bottled
beer, other vegetables')
Row(Member_number='3623', Date=datetime.date(2015, 5, 2), items='beef, brown
bread')
Row(Member_number='3691', Date=datetime.date(2015, 5, 2), items='canned beer,
berries, butter, baking powder')
Row(Member_number='4019', Date=datetime.date(2015, 5, 2), items='pastry, meat')
Row(Member_number='4105', Date=datetime.date(2015, 5, 2), items='pork,
whipped/sour cream')
Row(Member_number='4107', Date=datetime.date(2015, 5, 2), items='tropical fruit,
frozen fish, domestic eggs, mustard')
Row(Member_number='4153', Date=datetime.date(2015, 5, 2), items='other
vegetables, hard cheese, liquor, brown bread')
Row(Member_number='4217', Date=datetime.date(2015, 5, 2), items='bottled water,
sausage, yogurt')
Row(Member_number='1067', Date=datetime.date(2015, 5, 3), items='whole milk,
tropical fruit')
```

```
Row(Member_number='1152', Date=datetime.date(2015, 5, 3), items='whole milk,
rolls/buns')
Row(Member_number='1293', Date=datetime.date(2015, 5, 3), items='dessert,
tropical fruit, pip fruit, hard cheese, specialty fat')
Row(Member number='1431', Date=datetime.date(2015, 5, 3), items='other
vegetables, whole milk')
Row(Member number='1524', Date=datetime.date(2015, 5, 3), items='tropical fruit,
soda')
Row(Member number='1612', Date=datetime.date(2015, 5, 3), items='canned beer,
rolls/buns, softener')
Row(Member_number='2540', Date=datetime.date(2015, 5, 3), items='sausage,
rolls/buns')
Row(Member number='2787', Date=datetime.date(2015, 5, 3), items='brown bread,
sausage, rolls/buns, bottled water')
Row(Member_number='3113', Date=datetime.date(2015, 5, 3), items='coffee,
domestic eggs')
Row(Member_number='3361', Date=datetime.date(2015, 5, 3), items='tropical fruit,
pastry')
Row(Member_number='3529', Date=datetime.date(2015, 5, 3), items='pip fruit,
pork')
Row(Member_number='3540', Date=datetime.date(2015, 5, 3), items='pip fruit,
whole milk, bottled water')
Row(Member_number='3621', Date=datetime.date(2015, 5, 3), items='soda, other
vegetables')
Row(Member_number='3682', Date=datetime.date(2015, 5, 3), items='soda, whole
milk, frozen fish, canned beer, ready soups, chocolate')
Row(Member number='3748', Date=datetime.date(2015, 5, 3), items='pet care,
spread cheese')
Row(Member_number='3862', Date=datetime.date(2015, 5, 3), items='condensed milk,
yogurt, butter')
Row(Member_number='3911', Date=datetime.date(2015, 5, 3), items='specialty
cheese, brown bread, margarine')
Row(Member number='3915', Date=datetime.date(2015, 5, 3), items='pork, tropical
fruit, pip fruit, brown bread')
Row(Member number='3961', Date=datetime.date(2015, 5, 3), items='sausage,
finished products')
Row(Member number='3969', Date=datetime.date(2015, 5, 3), items='root
vegetables, rolls/buns')
Row(Member_number='3974', Date=datetime.date(2015, 5, 3), items='frankfurter,
sliced cheese')
Row(Member_number='4088', Date=datetime.date(2015, 5, 3), items='chocolate
marshmallow, yogurt, detergent')
Row(Member_number='4753', Date=datetime.date(2015, 5, 3), items='soups, sugar,
seasonal products, bottled beer')
Row(Member_number='1872', Date=datetime.date(2015, 5, 4), items='tropical fruit,
whole milk, fruit/vegetable juice')
Row(Member_number='1962', Date=datetime.date(2015, 5, 4), items='other
vegetables, sausage, tropical fruit, frozen meals, hygiene articles,
```

```
rolls/buns')
Row(Member_number='2061', Date=datetime.date(2015, 5, 4), items='misc.
beverages, whole milk')
Row(Member_number='3264', Date=datetime.date(2015, 5, 4), items='margarine,
whole milk')
Row(Member_number='3294', Date=datetime.date(2015, 5, 4), items='chocolate, root
vegetables')
Row(Member_number='3605', Date=datetime.date(2015, 5, 4), items='sausage,
rolls/buns, soda')
Row(Member_number='4114', Date=datetime.date(2015, 5, 4), items='canned beer,
fruit/vegetable juice')
Row(Member number='4130', Date=datetime.date(2015, 5, 4), items='beef,
whipped/sour cream')
Row(Member number='4302', Date=datetime.date(2015, 5, 4), items='other
vegetables, napkins, newspapers')
Row(Member_number='4510', Date=datetime.date(2015, 5, 4), items='tropical fruit,
specialty chocolate')
Row(Member number='4558', Date=datetime.date(2015, 5, 4), items='whipped/sour
cream, tropical fruit')
Row(Member_number='4571', Date=datetime.date(2015, 5, 4), items='citrus fruit,
napkins')
Row(Member number='4742', Date=datetime.date(2015, 5, 4), items='oil, citrus
Row(Member_number='4780', Date=datetime.date(2015, 5, 4), items='frankfurter,
other vegetables')
Row(Member number='1171', Date=datetime.date(2015, 5, 5), items='bottled water,
onions')
Row(Member_number='1339', Date=datetime.date(2015, 5, 5), items='sausage, whole
milk')
Row(Member_number='1668', Date=datetime.date(2015, 5, 5), items='chicken,
rolls/buns, pip fruit, pastry, frozen meals')
Row(Member_number='2352', Date=datetime.date(2015, 5, 5), items='sausage,
pastry')
Row(Member_number='2476', Date=datetime.date(2015, 5, 5), items='citrus fruit,
root vegetables')
Row(Member_number='2494', Date=datetime.date(2015, 5, 5), items='pip fruit,
canned beer, soft cheese, canned fish, semi-finished bread, newspapers,
napkins')
Row(Member_number='2707', Date=datetime.date(2015, 5, 5), items='chicken, whole
Row(Member_number='2743', Date=datetime.date(2015, 5, 5), items='beef, dog food,
yogurt')
Row(Member_number='2808', Date=datetime.date(2015, 5, 5), items='root
vegetables, canned beer')
Row(Member_number='2993', Date=datetime.date(2015, 5, 5), items='long life
bakery product, napkins')
Row(Member_number='3066', Date=datetime.date(2015, 5, 5), items='bottled water,
other vegetables')
```

```
Row(Member_number='3182', Date=datetime.date(2015, 5, 5), items='soda, rice,
sweet spreads')
Row(Member_number='3196', Date=datetime.date(2015, 5, 5), items='soda, whole
Row(Member number='3588', Date=datetime.date(2015, 5, 5), items='citrus fruit,
pip fruit, ketchup, roll products, seasonal products, hard cheese, dog food')
Row(Member number='3737', Date=datetime.date(2015, 5, 5), items='whole milk,
yogurt, pot plants, pastry, flower (seeds), pudding powder')
Row(Member_number='3860', Date=datetime.date(2015, 5, 5), items='whole milk,
frozen vegetables, bottled beer, specialty cheese, chewing gum')
Row(Member number='4065', Date=datetime.date(2015, 5, 5), items='shopping bags,
canned beer')
Row(Member number='4134', Date=datetime.date(2015, 5, 5), items='packaged
fruit/vegetables, pip fruit')
Row(Member_number='4176', Date=datetime.date(2015, 5, 5), items='semi-finished
bread, flour')
Row(Member_number='4441', Date=datetime.date(2015, 5, 5), items='grapes, soda')
Row(Member_number='1561', Date=datetime.date(2015, 5, 6), items='dish cleaner,
whole milk, flower (seeds), flour, chewing gum, dog food')
Row(Member number='1566', Date=datetime.date(2015, 5, 6), items='yogurt, whole
milk, shopping bags')
Row(Member number='1881', Date=datetime.date(2015, 5, 6), items='root
vegetables, domestic eggs')
Row(Member_number='2194', Date=datetime.date(2015, 5, 6), items='canned beer,
red/blush wine, salty snack')
Row(Member number='2242', Date=datetime.date(2015, 5, 6), items='rolls/buns,
whole milk, butter, frozen vegetables')
Row(Member_number='2331', Date=datetime.date(2015, 5, 6), items='citrus fruit,
Row(Member_number='2426', Date=datetime.date(2015, 5, 6), items='berries,
fruit/vegetable juice, cream cheese , tropical fruit')
Row(Member_number='2954', Date=datetime.date(2015, 5, 6), items='sausage, brown
bread')
Row(Member_number='2955', Date=datetime.date(2015, 5, 6), items='canned beer,
soda, white bread')
Row(Member_number='2978', Date=datetime.date(2015, 5, 6), items='ham, chicken,
condensed milk, other vegetables, whipped/sour cream')
Row(Member_number='3032', Date=datetime.date(2015, 5, 6), items='bottled water,
UHT-milk')
Row(Member_number='3175', Date=datetime.date(2015, 5, 6), items='meat, other
vegetables, zwieback')
Row(Member_number='3347', Date=datetime.date(2015, 5, 6), items='sausage, canned
beer, whipped/sour cream')
Row(Member number='3484', Date=datetime.date(2015, 5, 6), items='specialty bar,
candy')
Row(Member_number='3613', Date=datetime.date(2015, 5, 6), items='whole milk,
brown bread, root vegetables, roll products ')
Row(Member number='4064', Date=datetime.date(2015, 5, 6), items='frankfurter,
```

```
hamburger meat')
Row(Member_number='4122', Date=datetime.date(2015, 5, 6), items='meat,
chocolate')
Row(Member_number='4596', Date=datetime.date(2015, 5, 6), items='sausage,
bottled water')
Row(Member_number='4840', Date=datetime.date(2015, 5, 6), items='whole milk,
whipped/sour cream')
Row(Member_number='1128', Date=datetime.date(2015, 5, 7), items='meat, coffee')
Row(Member number='1218', Date=datetime.date(2015, 5, 7), items='whole milk,
sausage, yogurt, butter')
Row(Member number='1292', Date=datetime.date(2015, 5, 7), items='oil, whole
Row(Member_number='1370', Date=datetime.date(2015, 5, 7), items='tropical fruit,
chocolate')
Row(Member_number='1412', Date=datetime.date(2015, 5, 7), items='root
vegetables, margarine')
Row(Member_number='1515', Date=datetime.date(2015, 5, 7), items='frankfurter,
other vegetables')
Row(Member_number='1742', Date=datetime.date(2015, 5, 7), items='napkins,
photo/film')
Row(Member_number='2100', Date=datetime.date(2015, 5, 7), items='frankfurter,
ice cream, specialty cheese, coffee')
Row(Member_number='2467', Date=datetime.date(2015, 5, 7), items='whole milk,
nuts/prunes')
Row(Member_number='2747', Date=datetime.date(2015, 5, 7), items='whole milk,
butter')
Row(Member number='3060', Date=datetime.date(2015, 5, 7), items='canned beer,
whole milk')
Row(Member_number='3251', Date=datetime.date(2015, 5, 7), items='beef, butter,
chocolate, frozen meals, napkins, margarine')
Row(Member_number='4275', Date=datetime.date(2015, 5, 7), items='frankfurter,
salty snack, dental care')
Row(Member number='4293', Date=datetime.date(2015, 5, 7), items='root
vegetables, rolls/buns, flower (seeds)')
Row(Member number='4524', Date=datetime.date(2015, 5, 7), items='grapes,
butter')
Row(Member number='4765', Date=datetime.date(2015, 5, 7), items='butter milk,
zwieback, domestic eggs')
Row(Member_number='4864', Date=datetime.date(2015, 5, 7), items='sausage,
margarine')
Row(Member_number='1098', Date=datetime.date(2015, 5, 8), items='tropical fruit,
citrus fruit, yogurt, frankfurter, specialty chocolate, hard cheese, whole milk,
canned beer')
Row(Member_number='1113', Date=datetime.date(2015, 5, 8), items='bottled beer,
specialty bar, baking powder')
Row(Member number='1367', Date=datetime.date(2015, 5, 8), items='other
vegetables, beef, yogurt')
Row(Member number='1374', Date=datetime.date(2015, 5, 8), items='chewing gum,
```

```
rolls/buns')
Row(Member_number='1884', Date=datetime.date(2015, 5, 8), items='root
vegetables, frozen potato products, onions, UHT-milk')
Row(Member_number='2133', Date=datetime.date(2015, 5, 8), items='soda, whole
milk, shopping bags')
Row(Member_number='2300', Date=datetime.date(2015, 5, 8), items='frankfurter,
long life bakery product')
Row(Member_number='2346', Date=datetime.date(2015, 5, 8), items='specialty
cheese, meat, cat food, bottled beer, newspapers')
Row(Member_number='2855', Date=datetime.date(2015, 5, 8), items='canned beer,
organic products, whole milk, frozen dessert, misc. beverages')
Row(Member number='3222', Date=datetime.date(2015, 5, 8), items='shopping bags,
citrus fruit, whole milk, sliced cheese')
Row(Member number='3459', Date=datetime.date(2015, 5, 8), items='canned beer,
Row(Member number='3484', Date=datetime.date(2015, 5, 8), items='canned beer,
rolls/buns')
Row(Member number='3587', Date=datetime.date(2015, 5, 8), items='root
vegetables, pastry')
Row(Member number='4576', Date=datetime.date(2015, 5, 8), items='root
vegetables, UHT-milk, nuts/prunes, frankfurter, misc. beverages, whole milk,
cream cheese , canned fish')
Row(Member_number='1049', Date=datetime.date(2015, 5, 9), items='frankfurter,
herbs')
Row(Member_number='1061', Date=datetime.date(2015, 5, 9), items='whole milk,
tropical fruit, root vegetables, Instant food products, margarine')
Row(Member number='1693', Date=datetime.date(2015, 5, 9), items='spread cheese,
specialty chocolate, sugar')
Row(Member_number='1737', Date=datetime.date(2015, 5, 9), items='hamburger meat,
condensed milk')
Row(Member_number='1862', Date=datetime.date(2015, 5, 9), items='pork, butter,
napkins, seasonal products, coffee')
Row(Member_number='1870', Date=datetime.date(2015, 5, 9), items='onions, ice
cream, soda, sliced cheese')
Row(Member number='2272', Date=datetime.date(2015, 5, 9), items='zwieback,
frozen vegetables')
Row(Member number='2888', Date=datetime.date(2015, 5, 9), items='sausage, soda,
other vegetables')
Row(Member_number='2951', Date=datetime.date(2015, 5, 9), items='citrus fruit,
yogurt')
Row(Member_number='3734', Date=datetime.date(2015, 5, 9), items='ice cream,
rolls/buns, butter milk')
Row(Member_number='4361', Date=datetime.date(2015, 5, 9), items='hamburger meat,
chicken')
Row(Member_number='4364', Date=datetime.date(2015, 5, 9), items='sausage,
pickled vegetables')
Row(Member_number='4825', Date=datetime.date(2015, 5, 9), items='pip fruit,
frozen vegetables')
```

```
Row(Member_number='4891', Date=datetime.date(2015, 5, 9), items='whole milk,
curd')
Row(Member_number='1009', Date=datetime.date(2015, 5, 10), items='herbs, yogurt,
newspapers')
Row(Member number='1016', Date=datetime.date(2015, 5, 10), items='UHT-milk,
bottled beer')
Row(Member number='1595', Date=datetime.date(2015, 5, 10), items='liver loaf,
hamburger meat, sausage, whole milk, whipped/sour cream, other vegetables, white
bread, rolls/buns')
Row(Member_number='1994', Date=datetime.date(2015, 5, 10), items='canned beer,
bottled beer, yogurt, fruit/vegetable juice')
Row(Member_number='2383', Date=datetime.date(2015, 5, 10), items='soda, long
life bakery product, pastry')
Row(Member number='2650', Date=datetime.date(2015, 5, 10), items='soda, beef,
other vegetables, semi-finished bread, shopping bags, white wine')
Row(Member_number='3042', Date=datetime.date(2015, 5, 10), items='other
vegetables, whole milk, UHT-milk, frozen meals, salty snack')
Row(Member_number='3589', Date=datetime.date(2015, 5, 10), items='sausage,
tropical fruit, curd')
Row(Member number='3613', Date=datetime.date(2015, 5, 10), items='beef, other
vegetables')
Row (Member number='3764', Date=datetime.date(2015, 5, 10), items='sausage,
Row(Member number='3883', Date=datetime.date(2015, 5, 10), items='citrus fruit,
whole milk')
Row(Member_number='3959', Date=datetime.date(2015, 5, 10), items='tropical
fruit, domestic eggs')
Row(Member_number='4375', Date=datetime.date(2015, 5, 10), items='sausage,
domestic eggs, sugar')
Row(Member_number='4410', Date=datetime.date(2015, 5, 10), items='hygiene
articles, dessert')
Row(Member_number='1883', Date=datetime.date(2015, 5, 11), items='meat, whole
milk')
Row(Member_number='2416', Date=datetime.date(2015, 5, 11), items='ice cream,
long life bakery product')
Row(Member_number='3061', Date=datetime.date(2015, 5, 11), items='soda, domestic
eggs')
Row(Member_number='3255', Date=datetime.date(2015, 5, 11), items='tropical
fruit, frozen dessert, newspapers')
Row(Member_number='3408', Date=datetime.date(2015, 5, 11), items='bottled beer,
bottled water, rolls/buns, root vegetables')
Row(Member_number='3504', Date=datetime.date(2015, 5, 11), items='frankfurter,
other vegetables')
Row(Member_number='3574', Date=datetime.date(2015, 5, 11), items='canned beer,
yogurt')
Row(Member_number='4230', Date=datetime.date(2015, 5, 11), items='pastry,
grapes')
Row(Member_number='4302', Date=datetime.date(2015, 5, 11), items='other
```

```
vegetables, frankfurter, rolls/buns, coffee, ice cream')
Row(Member_number='4672', Date=datetime.date(2015, 5, 11), items='frankfurter,
UHT-milk, fruit/vegetable juice')
Row(Member_number='4864', Date=datetime.date(2015, 5, 11), items='whole milk,
baking powder')
Row(Member_number='1524', Date=datetime.date(2015, 5, 12), items='root
vegetables, dessert')
Row(Member_number='1580', Date=datetime.date(2015, 5, 12), items='other
vegetables, whole milk')
Row(Member_number='1636', Date=datetime.date(2015, 5, 12), items='berries, other
vegetables')
Row(Member_number='1710', Date=datetime.date(2015, 5, 12), items='chicken,
rolls/buns')
Row(Member_number='1720', Date=datetime.date(2015, 5, 12), items='root
vegetables, onions, whole milk, butter')
Row(Member number='1788', Date=datetime.date(2015, 5, 12), items='UHT-milk,
citrus fruit, frozen vegetables')
Row(Member_number='2386', Date=datetime.date(2015, 5, 12), items='canned beer,
sugar')
Row(Member number='2391', Date=datetime.date(2015, 5, 12), items='frozen meals,
other vegetables, bottled beer')
Row(Member_number='2524', Date=datetime.date(2015, 5, 12), items='rolls/buns,
other vegetables')
Row(Member_number='2555', Date=datetime.date(2015, 5, 12), items='frozen fish,
tropical fruit')
Row(Member_number='3061', Date=datetime.date(2015, 5, 12), items='pip fruit,
margarine')
Row(Member_number='3348', Date=datetime.date(2015, 5, 12), items='sausage, whole
milk, margarine')
Row(Member number='3419', Date=datetime.date(2015, 5, 12), items='red/blush
wine, dessert, curd, rolls/buns')
Row(Member_number='3645', Date=datetime.date(2015, 5, 12), items='citrus fruit,
rolls/buns')
Row(Member_number='3683', Date=datetime.date(2015, 5, 12), items='canned beer,
other vegetables')
Row(Member_number='3950', Date=datetime.date(2015, 5, 12), items='chocolate,
Row(Member_number='4292', Date=datetime.date(2015, 5, 12), items='frozen
vegetables, red/blush wine')
Row(Member_number='4308', Date=datetime.date(2015, 5, 12), items='pastry, spread
cheese, other vegetables')
Row(Member_number='4335', Date=datetime.date(2015, 5, 12), items='tidbits, whole
milk, frozen vegetables')
Row(Member_number='4535', Date=datetime.date(2015, 5, 12), items='pastry,
rolls/buns')
Row(Member number='1118', Date=datetime.date(2015, 5, 13), items='house keeping
products, rolls/buns, pickled vegetables, curd')
Row(Member_number='1194', Date=datetime.date(2015, 5, 13), items='butter,
```

```
coffee, soda, pastry')
Row(Member_number='1380', Date=datetime.date(2015, 5, 13), items='pip fruit,
yogurt')
Row(Member_number='1477', Date=datetime.date(2015, 5, 13), items='bottled beer,
berries')
Row(Member_number='1509', Date=datetime.date(2015, 5, 13), items='chocolate,
liquor')
Row(Member_number='2464', Date=datetime.date(2015, 5, 13), items='white wine,
rolls/buns')
Row(Member_number='2549', Date=datetime.date(2015, 5, 13), items='other
vegetables, liquor (appetizer)')
Row(Member number='2700', Date=datetime.date(2015, 5, 13), items='hamburger
meat, yogurt')
Row(Member number='3104', Date=datetime.date(2015, 5, 13), items='citrus fruit,
whole milk')
Row(Member_number='3818', Date=datetime.date(2015, 5, 13), items='other
vegetables, whole milk, tropical fruit, yogurt')
Row(Member_number='3953', Date=datetime.date(2015, 5, 13), items='sausage, pip
fruit, brown bread')
Row(Member number='4102', Date=datetime.date(2015, 5, 13), items='oil, soda')
Row(Member_number='4197', Date=datetime.date(2015, 5, 13), items='butter,
cream')
Row(Member_number='4323', Date=datetime.date(2015, 5, 13), items='whole milk,
beef')
Row(Member_number='4843', Date=datetime.date(2015, 5, 13), items='whole milk,
pork')
Row(Member_number='1009', Date=datetime.date(2015, 5, 14), items='tropical
fruit, yogurt')
Row(Member_number='1076', Date=datetime.date(2015, 5, 14), items='frankfurter,
chicken, butter, bottled water')
Row(Member number='1080', Date=datetime.date(2015, 5, 14), items='root
vegetables, frozen vegetables, pet care')
Row(Member_number='1479', Date=datetime.date(2015, 5, 14), items='berries, other
vegetables, sausage, pip fruit, rolls/buns, brown bread, sauces')
Row(Member number='1527', Date=datetime.date(2015, 5, 14), items='UHT-milk,
frozen vegetables, frozen meals')
Row(Member number='1550', Date=datetime.date(2015, 5, 14), items='potato
products, oil')
Row(Member_number='1699', Date=datetime.date(2015, 5, 14), items='citrus fruit,
pip fruit')
Row(Member_number='2073', Date=datetime.date(2015, 5, 14), items='tropical
fruit, herbs')
Row(Member_number='2190', Date=datetime.date(2015, 5, 14), items='tropical
fruit, rolls/buns, root vegetables')
Row(Member_number='2324', Date=datetime.date(2015, 5, 14), items='frankfurter,
packaged fruit/vegetables')
Row(Member_number='2470', Date=datetime.date(2015, 5, 14), items='canned beer,
whole milk')
```

```
Row(Member_number='2865', Date=datetime.date(2015, 5, 14), items='oil, pork,
other vegetables, frozen meals')
Row(Member number='3154', Date=datetime.date(2015, 5, 14), items='citrus fruit,
grapes')
Row(Member number='3310', Date=datetime.date(2015, 5, 14), items='pork, white
bread, domestic eggs')
Row(Member number='3337', Date=datetime.date(2015, 5, 14), items='beef, waffles,
citrus fruit')
Row(Member number='3396', Date=datetime.date(2015, 5, 14), items='chicken,
mayonnaise, soda, sparkling wine')
Row(Member_number='3636', Date=datetime.date(2015, 5, 14), items='whole milk')
Row(Member_number='4563', Date=datetime.date(2015, 5, 14), items='grapes,
sparkling wine, canned beer, pastry')
Row(Member number='4637', Date=datetime.date(2015, 5, 14), items='whole milk,
pastry, liquor')
Row(Member_number='4828', Date=datetime.date(2015, 5, 14), items='whole milk')
Row(Member_number='1052', Date=datetime.date(2015, 5, 15), items='frankfurter,
whipped/sour cream')
Row(Member_number='1206', Date=datetime.date(2015, 5, 15), items='pastry,
sausage, soda, rolls/buns, sugar, other vegetables, whole milk, softener')
Row(Member_number='1403', Date=datetime.date(2015, 5, 15), items='frankfurter,
whipped/sour cream, other vegetables')
Row(Member_number='1479', Date=datetime.date(2015, 5, 15), items='sausage,
shopping bags')
Row(Member_number='1485', Date=datetime.date(2015, 5, 15), items='beef, packaged
fruit/vegetables')
Row(Member_number='1542', Date=datetime.date(2015, 5, 15), items='tropical
fruit, whole milk')
Row(Member_number='1737', Date=datetime.date(2015, 5, 15), items='tropical
fruit, citrus fruit')
Row(Member_number='1927', Date=datetime.date(2015, 5, 15), items='tropical
fruit, white wine, oil')
Row(Member_number='1959', Date=datetime.date(2015, 5, 15), items='tropical
fruit, semi-finished bread')
Row(Member number='1998', Date=datetime.date(2015, 5, 15), items='root
vegetables, citrus fruit, whole milk, chewing gum')
Row (Member number='2077', Date=datetime.date(2015, 5, 15), items='chicken,
citrus fruit, butter, rolls/buns, soft cheese, specialty bar')
Row(Member_number='2110', Date=datetime.date(2015, 5, 15), items='coffee,
domestic eggs')
Row(Member_number='2156', Date=datetime.date(2015, 5, 15), items='newspapers,
whole milk')
Row(Member_number='2245', Date=datetime.date(2015, 5, 15), items='sausage, whole
Row(Member_number='2257', Date=datetime.date(2015, 5, 15), items='soda, yogurt')
Row(Member_number='2312', Date=datetime.date(2015, 5, 15), items='other
vegetables, red/blush wine')
Row(Member number='2816', Date=datetime.date(2015, 5, 15), items='whole milk,
```

```
pastry')
Row(Member_number='2885', Date=datetime.date(2015, 5, 15), items='citrus fruit,
hamburger meat, rolls/buns')
Row(Member_number='3270', Date=datetime.date(2015, 5, 15), items='whole milk,
bottled water')
Row(Member_number='3452', Date=datetime.date(2015, 5, 15), items='citrus fruit,
Row(Member_number='3484', Date=datetime.date(2015, 5, 15), items='tropical
fruit, white bread')
Row(Member_number='3957', Date=datetime.date(2015, 5, 15), items='frankfurter,
beef, domestic eggs, hard cheese, processed cheese, curd, shopping bags')
Row(Member number='4591', Date=datetime.date(2015, 5, 15), items='pastry, pip
fruit, rolls/buns, yogurt')
Row(Member number='4606', Date=datetime.date(2015, 5, 15), items='whole milk,
Row(Member_number='4634', Date=datetime.date(2015, 5, 15), items='ham, pork,
soda')
Row(Member number='4862', Date=datetime.date(2015, 5, 15), items='root
vegetables, soft cheese')
Row(Member_number='1017', Date=datetime.date(2015, 5, 16), items='other
vegetables, rolls/buns')
Row(Member number='1092', Date=datetime.date(2015, 5, 16), items='root
vegetables, soda, specialty bar, other vegetables, frozen vegetables')
Row(Member_number='1094', Date=datetime.date(2015, 5, 16), items='tropical
fruit, soda')
Row(Member number='1403', Date=datetime.date(2015, 5, 16), items='hamburger
meat, curd')
Row(Member_number='1477', Date=datetime.date(2015, 5, 16), items='misc.
beverages, sausage, root vegetables, liquor (appetizer), coffee')
Row(Member_number='1510', Date=datetime.date(2015, 5, 16), items='sausage, ice
cream, rolls/buns')
Row(Member_number='1649', Date=datetime.date(2015, 5, 16), items='pork,
rolls/buns, other vegetables')
Row(Member_number='1869', Date=datetime.date(2015, 5, 16), items='root
vegetables, sausage, whole milk, chewing gum, brown bread')
Row(Member_number='2079', Date=datetime.date(2015, 5, 16), items='soda, whole
milk, shopping bags')
Row(Member_number='2272', Date=datetime.date(2015, 5, 16), items='rolls/buns,
whole milk')
Row(Member_number='2616', Date=datetime.date(2015, 5, 16), items='pork, pip
fruit')
Row(Member_number='3380', Date=datetime.date(2015, 5, 16), items='root
vegetables, pasta, pip fruit, red/blush wine')
Row(Member_number='3462', Date=datetime.date(2015, 5, 16), items='shopping bags,
cream cheese ')
Row(Member_number='3463', Date=datetime.date(2015, 5, 16), items='sausage,
beverages')
Row(Member_number='3578', Date=datetime.date(2015, 5, 16), items='sausage, whole
```

```
milk, root vegetables, citrus fruit')
Row(Member_number='3620', Date=datetime.date(2015, 5, 16), items='frankfurter,
whole milk')
Row(Member_number='4012', Date=datetime.date(2015, 5, 16), items='pork, meat,
whole milk, salty snack, frozen potato products, processed cheese, rolls/buns')
Row(Member_number='4313', Date=datetime.date(2015, 5, 16), items='sugar,
berries, seasonal products, bottled beer')
Row(Member_number='4456', Date=datetime.date(2015, 5, 16), items='bottled water,
margarine, onions, other vegetables, whole milk')
Row(Member_number='4563', Date=datetime.date(2015, 5, 16), items='pork, whole
milk')
Row(Member_number='4679', Date=datetime.date(2015, 5, 16), items='pork,
frankfurter, other vegetables, potato products')
Row(Member_number='4717', Date=datetime.date(2015, 5, 16), items='canned beer,
citrus fruit')
Row(Member number='4790', Date=datetime.date(2015, 5, 16), items='bottled beer,
root vegetables, pip fruit, other vegetables, dessert, rolls/buns, shopping
Row(Member_number='4883', Date=datetime.date(2015, 5, 16), items='ice cream,
shopping bags')
Row(Member_number='4999', Date=datetime.date(2015, 5, 16), items='butter milk,
whipped/sour cream')
Row(Member_number='1027', Date=datetime.date(2015, 5, 17), items='pork,
hamburger meat')
Row(Member_number='1126', Date=datetime.date(2015, 5, 17), items='newspapers,
pork, root vegetables, napkins')
Row(Member number='1154', Date=datetime.date(2015, 5, 17), items='citrus fruit,
sausage, whole milk, canned beer')
Row(Member_number='1499', Date=datetime.date(2015, 5, 17), items='whole milk')
Row(Member_number='1629', Date=datetime.date(2015, 5, 17), items='citrus fruit,
ham')
Row(Member_number='1670', Date=datetime.date(2015, 5, 17), items='ice cream,
citrus fruit, soda')
Row(Member_number='1701', Date=datetime.date(2015, 5, 17), items='canned beer,
photo/film')
Row(Member number='2038', Date=datetime.date(2015, 5, 17), items='rolls/buns,
whole milk')
Row(Member number='2381', Date=datetime.date(2015, 5, 17), items='coffee,
sausage, salt, white wine')
Row(Member_number='2560', Date=datetime.date(2015, 5, 17), items='sausage,
frankfurter, other vegetables, bottled water')
Row(Member_number='2755', Date=datetime.date(2015, 5, 17), items='whole milk')
Row(Member_number='3245', Date=datetime.date(2015, 5, 17), items='other
vegetables, hamburger meat, citrus fruit, dish cleaner, coffee, mayonnaise,
newspapers')
Row(Member number='3309', Date=datetime.date(2015, 5, 17), items='root
vegetables, semi-finished bread')
Row(Member_number='3406', Date=datetime.date(2015, 5, 17), items='sausage,
```

```
sliced cheese')
Row(Member_number='3543', Date=datetime.date(2015, 5, 17), items='canned beer,
whole milk')
Row(Member_number='3750', Date=datetime.date(2015, 5, 17), items='pastry, curd')
Row(Member number='3776', Date=datetime.date(2015, 5, 17), items='kitchen
towels, bottled water, citrus fruit, butter, hygiene articles')
Row(Member number='4613', Date=datetime.date(2015, 5, 17), items='pork, brown
bread, fruit/vegetable juice, shopping bags')
Row(Member_number='4682', Date=datetime.date(2015, 5, 17), items='sausage, other
vegetables')
Row(Member number='4787', Date=datetime.date(2015, 5, 17), items='sausage, UHT-
Row(Member number='4849', Date=datetime.date(2015, 5, 17), items='citrus fruit,
berries')
Row(Member_number='4971', Date=datetime.date(2015, 5, 17), items='sausage,
baking powder')
Row(Member_number='1242', Date=datetime.date(2015, 5, 18), items='sausage,
frozen meals')
Row(Member_number='1312', Date=datetime.date(2015, 5, 18), items='frankfurter,
oil')
Row(Member_number='1330', Date=datetime.date(2015, 5, 18), items='chicken,
berries, soda')
Row(Member_number='1379', Date=datetime.date(2015, 5, 18), items='pork, dishes')
Row(Member_number='1807', Date=datetime.date(2015, 5, 18), items='hamburger
meat, margarine')
Row(Member_number='1846', Date=datetime.date(2015, 5, 18), items='sausage, misc.
beverages')
Row(Member_number='1998', Date=datetime.date(2015, 5, 18), items='canned beer,
whole milk, frankfurter, dishes, rolls/buns, pip fruit, canned vegetables')
Row(Member_number='2240', Date=datetime.date(2015, 5, 18), items='citrus fruit,
canned beer')
Row(Member_number='2485', Date=datetime.date(2015, 5, 18), items='other
vegetables, dog food')
Row(Member_number='2534', Date=datetime.date(2015, 5, 18), items='bottled water,
Row(Member_number='2574', Date=datetime.date(2015, 5, 18), items='meat, canned
Row(Member_number='2663', Date=datetime.date(2015, 5, 18), items='cat food, ham,
whipped/sour cream, canned beer')
Row(Member_number='2847', Date=datetime.date(2015, 5, 18), items='whipped/sour
cream, chicken')
Row(Member number='3058', Date=datetime.date(2015, 5, 18), items='hamburger
meat, chicken, butter, rolls/buns')
Row(Member_number='3104', Date=datetime.date(2015, 5, 18), items='bottled water,
yogurt, spices, fruit/vegetable juice')
Row(Member_number='3363', Date=datetime.date(2015, 5, 18), items='canned beer,
baking powder')
Row(Member_number='3518', Date=datetime.date(2015, 5, 18), items='sausage,
```

```
pastry, fruit/vegetable juice, dessert')
Row(Member_number='3604', Date=datetime.date(2015, 5, 18), items='frankfurter,
cat food')
Row(Member_number='3938', Date=datetime.date(2015, 5, 18), items='whole milk,
pork')
Row(Member_number='4417', Date=datetime.date(2015, 5, 18), items='sausage,
tropical fruit, pip fruit')
Row(Member_number='4426', Date=datetime.date(2015, 5, 18), items='tropical
fruit, curd')
Row(Member_number='4522', Date=datetime.date(2015, 5, 18), items='canned beer,
soda, candles, pickled vegetables')
Row(Member_number='4624', Date=datetime.date(2015, 5, 18), items='pip fruit,
whipped/sour cream')
Row(Member number='4752', Date=datetime.date(2015, 5, 18), items='liver loaf,
pip fruit')
Row(Member number='4937', Date=datetime.date(2015, 5, 18), items='whole milk,
sausage')
Row(Member number='1230', Date=datetime.date(2015, 5, 19), items='ham, domestic
eggs')
Row(Member number='1319', Date=datetime.date(2015, 5, 19), items='pork, frozen
meals, canned beer')
Row(Member_number='1663', Date=datetime.date(2015, 5, 19), items='pork, yogurt')
Row(Member_number='1768', Date=datetime.date(2015, 5, 19), items='dessert, other
vegetables, long life bakery product')
Row(Member_number='1793', Date=datetime.date(2015, 5, 19), items='canned beer,
male cosmetics, white wine, ice cream')
Row(Member_number='1861', Date=datetime.date(2015, 5, 19), items='pip fruit,
other vegetables, bottled water')
Row(Member_number='1905', Date=datetime.date(2015, 5, 19), items='sugar, other
vegetables')
Row(Member number='2142', Date=datetime.date(2015, 5, 19), items='yogurt, pork,
UHT-milk, specialty bar')
Row(Member_number='2275', Date=datetime.date(2015, 5, 19), items='pork, shopping
bags')
Row(Member_number='2408', Date=datetime.date(2015, 5, 19), items='onions, citrus
fruit, white bread, dessert, shopping bags')
Row(Member number='2568', Date=datetime.date(2015, 5, 19), items='whipped/sour
cream, other vegetables, flour')
Row(Member_number='2636', Date=datetime.date(2015, 5, 19), items='hamburger
meat, margarine')
Row(Member_number='2744', Date=datetime.date(2015, 5, 19), items='ham, soft
cheese, fruit/vegetable juice, sugar')
Row(Member_number='2796', Date=datetime.date(2015, 5, 19), items='curd,
dessert')
Row(Member_number='2986', Date=datetime.date(2015, 5, 19), items='margarine,
whole milk')
Row(Member_number='2996', Date=datetime.date(2015, 5, 19), items='berries, UHT-
milk, newspapers')
```

```
Row(Member number='3028', Date=datetime.date(2015, 5, 19), items='citrus fruit,
yogurt')
Row(Member number='3112', Date=datetime.date(2015, 5, 19), items='rolls/buns,
nuts/prunes')
Row(Member number='3331', Date=datetime.date(2015, 5, 19), items='frankfurter,
ice cream, soda')
Row(Member number='3433', Date=datetime.date(2015, 5, 19), items='ham, frozen
meals')
Row(Member number='3528', Date=datetime.date(2015, 5, 19), items='sausage,
rolls/buns')
Row(Member_number='3727', Date=datetime.date(2015, 5, 19), items='tropical
fruit, curd')
Row(Member_number='3999', Date=datetime.date(2015, 5, 19), items='dessert,
fruit/vegetable juice')
Row(Member_number='4008', Date=datetime.date(2015, 5, 19), items='meat, root
vegetables, margarine')
Row(Member_number='1225', Date=datetime.date(2015, 5, 20), items='photo/film,
brown bread')
Row(Member_number='1231', Date=datetime.date(2015, 5, 20), items='white wine,
photo/film, whipped/sour cream')
Row(Member_number='1365', Date=datetime.date(2015, 5, 20), items='other
vegetables')
Row(Member_number='1936', Date=datetime.date(2015, 5, 20), items='other
vegetables, dishes, newspapers')
Row(Member_number='1983', Date=datetime.date(2015, 5, 20), items='soda, white
wine, processed cheese')
Row(Member number='2601', Date=datetime.date(2015, 5, 20), items='bottled beer,
other vegetables')
Row(Member_number='3258', Date=datetime.date(2015, 5, 20), items='other
vegetables, rum, bottled water')
Row(Member_number='3409', Date=datetime.date(2015, 5, 20), items='sausage,
citrus fruit, red/blush wine, frozen vegetables, cream')
Row(Member_number='3469', Date=datetime.date(2015, 5, 20), items='soda, hard
cheese')
Row(Member_number='3504', Date=datetime.date(2015, 5, 20), items='frozen meals,
pip fruit, dish cleaner, processed cheese')
Row(Member_number='3718', Date=datetime.date(2015, 5, 20), items='hamburger
meat, whole milk')
Row(Member_number='4445', Date=datetime.date(2015, 5, 20), items='frozen fish,
sausage, chocolate, rolls/buns')
Row(Member_number='4908', Date=datetime.date(2015, 5, 20), items='tropical
fruit, soda, UHT-milk')
Row(Member_number='1261', Date=datetime.date(2015, 5, 21), items='rolls/buns,
hard cheese, flour')
Row(Member_number='1452', Date=datetime.date(2015, 5, 21), items='shopping bags,
whole milk')
Row(Member_number='1554', Date=datetime.date(2015, 5, 21), items='tropical
fruit, sausage, detergent, butter, newspapers')
```

```
Row(Member_number='1697', Date=datetime.date(2015, 5, 21), items='misc.
beverages, rolls/buns, frozen vegetables, beverages, condensed milk')
Row(Member_number='1710', Date=datetime.date(2015, 5, 21), items='chicken, brown
bread')
Row(Member number='1715', Date=datetime.date(2015, 5, 21), items='butter,
specialty chocolate, frozen meals')
Row(Member number='1821', Date=datetime.date(2015, 5, 21), items='tropical
fruit, napkins, long life bakery product')
Row(Member number='1888', Date=datetime.date(2015, 5, 21), items='frankfurter,
whipped/sour cream')
Row(Member number='2066', Date=datetime.date(2015, 5, 21), items='pip fruit,
zwieback')
Row(Member number='2594', Date=datetime.date(2015, 5, 21), items='citrus fruit,
whole milk')
Row(Member_number='2624', Date=datetime.date(2015, 5, 21), items='tropical
fruit, specialty chocolate')
Row(Member_number='2657', Date=datetime.date(2015, 5, 21), items='bottled beer,
frozen dessert')
Row(Member_number='2844', Date=datetime.date(2015, 5, 21), items='tropical
fruit, whipped/sour cream')
Row(Member_number='2940', Date=datetime.date(2015, 5, 21), items='canned beer,
detergent, root vegetables, butter milk')
Row(Member_number='2972', Date=datetime.date(2015, 5, 21), items='whole milk,
UHT-milk, canned beer, coffee, house keeping products, other vegetables, pip
fruit')
Row(Member_number='3297', Date=datetime.date(2015, 5, 21), items='other
vegetables, meat')
Row(Member_number='3690', Date=datetime.date(2015, 5, 21), items='sausage, pork,
Row(Member_number='3915', Date=datetime.date(2015, 5, 21), items='misc.
beverages, bottled beer, other vegetables, cream cheese ')
Row(Member_number='4319', Date=datetime.date(2015, 5, 21), items='pork, UHT-
milk, frozen fish')
Row(Member_number='4533', Date=datetime.date(2015, 5, 21), items='frozen fruits,
citrus fruit')
Row(Member_number='1042', Date=datetime.date(2015, 5, 22), items='citrus fruit,
bottled water')
Row(Member_number='1105', Date=datetime.date(2015, 5, 22), items='bottled water,
yogurt, tropical fruit, whole milk')
Row(Member_number='1241', Date=datetime.date(2015, 5, 22), items='meat, other
vegetables, pasta')
Row(Member_number='1493', Date=datetime.date(2015, 5, 22), items='whipped/sour
cream, yogurt, hygiene articles')
Row(Member number='1630', Date=datetime.date(2015, 5, 22), items='semi-finished
bread, tropical fruit')
Row(Member_number='1875', Date=datetime.date(2015, 5, 22), items='bottled water,
berries, oil')
Row(Member number='1993', Date=datetime.date(2015, 5, 22), items='root
```

```
vegetables, curd, waffles')
Row(Member_number='2201', Date=datetime.date(2015, 5, 22), items='domestic eggs,
sausage, bottled water, curd, frozen meals, hygiene articles, chocolate,
rolls/buns')
Row(Member number='2229', Date=datetime.date(2015, 5, 22), items='cream cheese,
rolls/buns')
Row(Member number='2363', Date=datetime.date(2015, 5, 22), items='beef, frozen
meals, pastry, white wine, whipped/sour cream')
Row(Member_number='2617', Date=datetime.date(2015, 5, 22), items='whole milk,
dessert')
Row(Member_number='3034', Date=datetime.date(2015, 5, 22), items='whipped/sour
cream, other vegetables')
Row(Member_number='3082', Date=datetime.date(2015, 5, 22), items='curd, whole
milk, bottled water')
Row(Member_number='3296', Date=datetime.date(2015, 5, 22), items='hamburger
meat, packaged fruit/vegetables, baking powder')
Row(Member_number='3302', Date=datetime.date(2015, 5, 22), items='pork, whole
milk')
Row(Member_number='4076', Date=datetime.date(2015, 5, 22), items='meat,
detergent, roll products ')
Row(Member_number='4115', Date=datetime.date(2015, 5, 22), items='citrus fruit,
waffles')
Row(Member_number='4124', Date=datetime.date(2015, 5, 22), items='whole milk,
frozen vegetables, white wine')
Row(Member_number='4453', Date=datetime.date(2015, 5, 22), items='pork, brown
bread')
Row(Member number='4705', Date=datetime.date(2015, 5, 22), items='sausage,
canned beer')
Row(Member number='4723', Date=datetime.date(2015, 5, 22), items='tropical
fruit, pastry')
Row(Member_number='4835', Date=datetime.date(2015, 5, 22), items='curd,
rolls/buns')
Row(Member_number='1018', Date=datetime.date(2015, 5, 23), items='butter milk,
root vegetables')
Row (Member number='1035', Date=datetime.date(2015, 5, 23), items='sausage,
frozen vegetables')
Row(Member number='1305', Date=datetime.date(2015, 5, 23), items='sausage, white
wine, candy')
Row(Member_number='1329', Date=datetime.date(2015, 5, 23), items='hamburger
meat, whipped/sour cream')
Row(Member_number='1339', Date=datetime.date(2015, 5, 23), items='tropical
fruit, other vegetables')
Row(Member_number='1572', Date=datetime.date(2015, 5, 23), items='frankfurter,
other vegetables, specialty bar')
Row(Member_number='2149', Date=datetime.date(2015, 5, 23), items='softener,
saltv snack')
Row(Member_number='2543', Date=datetime.date(2015, 5, 23), items='pip fruit,
dessert, sauces')
```

```
Row(Member number='2990', Date=datetime.date(2015, 5, 23), items='whole milk,
chocolate, rolls/buns, brown bread')
Row(Member_number='3100', Date=datetime.date(2015, 5, 23), items='frankfurter,
rolls/buns')
Row(Member number='3242', Date=datetime.date(2015, 5, 23), items='bottled water,
whole milk')
Row(Member number='3356', Date=datetime.date(2015, 5, 23), items='tropical
fruit, citrus fruit, domestic eggs, root vegetables')
Row(Member_number='3402', Date=datetime.date(2015, 5, 23), items='curd,
dessert')
Row(Member_number='4721', Date=datetime.date(2015, 5, 23), items='sausage,
canned vegetables, margarine')
Row(Member_number='4992', Date=datetime.date(2015, 5, 23), items='canned beer,
napkins, specialty bar')
Row(Member_number='1117', Date=datetime.date(2015, 5, 24), items='meat, whole
milk, whipped/sour cream')
Row(Member_number='1211', Date=datetime.date(2015, 5, 24), items='rolls/buns,
tropical fruit, salty snack, specialty bar')
Row(Member_number='1305', Date=datetime.date(2015, 5, 24), items='citrus fruit,
tropical fruit, pork, other vegetables, whole milk, yogurt, flower (seeds)')
Row(Member_number='1394', Date=datetime.date(2015, 5, 24), items='ham, bottled
beer')
Row(Member_number='1414', Date=datetime.date(2015, 5, 24), items='whole milk,
other vegetables')
Row(Member_number='1571', Date=datetime.date(2015, 5, 24), items='sausage,
bottled beer, whole milk, frozen vegetables')
Row(Member number='1811', Date=datetime.date(2015, 5, 24), items='beverages,
bottled water')
Row(Member_number='2092', Date=datetime.date(2015, 5, 24), items='sausage, rum')
Row(Member_number='2114', Date=datetime.date(2015, 5, 24), items='frankfurter,
soups')
Row(Member_number='2525', Date=datetime.date(2015, 5, 24), items='baking powder,
beef')
Row(Member_number='2613', Date=datetime.date(2015, 5, 24), items='misc.
beverages, rolls/buns')
Row(Member_number='2632', Date=datetime.date(2015, 5, 24), items='domestic eggs,
whipped/sour cream')
Row(Member_number='2777', Date=datetime.date(2015, 5, 24), items='pastry, whole
milk, soda, Instant food products')
Row(Member_number='2946', Date=datetime.date(2015, 5, 24), items='frankfurter,
napkins')
Row(Member_number='3143', Date=datetime.date(2015, 5, 24), items='coffee, root
vegetables, whipped/sour cream')
Row(Member number='3255', Date=datetime.date(2015, 5, 24), items='rolls/buns,
root vegetables, domestic eggs, ice cream')
Row(Member number='3557', Date=datetime.date(2015, 5, 24), items='meat, whole
milk, cling film/bags')
Row(Member_number='3579', Date=datetime.date(2015, 5, 24), items='beef, long
```

```
life bakery product')
Row(Member_number='3586', Date=datetime.date(2015, 5, 24), items='ham, waffles')
Row(Member number='3738', Date=datetime.date(2015, 5, 24), items='potato
products, waffles, newspapers')
Row(Member number='4529', Date=datetime.date(2015, 5, 24), items='flower
soil/fertilizer, tropical fruit')
Row(Member number='4958', Date=datetime.date(2015, 5, 24), items='tropical
fruit, butter')
Row(Member number='1055', Date=datetime.date(2015, 5, 25), items='bottled water,
yogurt, newspapers, soda')
Row(Member_number='1150', Date=datetime.date(2015, 5, 25), items='canned beer,
Row(Member_number='2736', Date=datetime.date(2015, 5, 25), items='pork, soda')
Row(Member_number='2799', Date=datetime.date(2015, 5, 25), items='sausage,
Row(Member number='3176', Date=datetime.date(2015, 5, 25), items='bottled beer,
whole milk')
Row(Member_number='3599', Date=datetime.date(2015, 5, 25), items='turkey,
flour')
Row(Member number='4353', Date=datetime.date(2015, 5, 25), items='bottled beer,
hamburger meat')
Row(Member number='4364', Date=datetime.date(2015, 5, 25), items='chicken,
Row(Member_number='4384', Date=datetime.date(2015, 5, 25), items='chicken,
citrus fruit, turkey, whole milk, sweet spreads, cream cheese, specialty
chocolate, oil')
Row(Member_number='4433', Date=datetime.date(2015, 5, 25), items='other
vegetables, cream cheese, yogurt, whole milk, waffles, curd, fruit/vegetable
Row(Member number='4787', Date=datetime.date(2015, 5, 25), items='pork, cat
Row(Member_number='4851', Date=datetime.date(2015, 5, 25), items='bottled beer,
herbs')
Row(Member_number='1325', Date=datetime.date(2015, 5, 26), items='bottled water,
long life bakery product, root vegetables, mustard')
Row(Member_number='1610', Date=datetime.date(2015, 5, 26), items='yogurt, root
vegetables, oil')
Row(Member_number='1649', Date=datetime.date(2015, 5, 26), items='pip fruit,
salty snack, yogurt')
Row(Member_number='1683', Date=datetime.date(2015, 5, 26), items='root
vegetables, turkey, bottled water')
Row(Member_number='1768', Date=datetime.date(2015, 5, 26), items='beverages,
pickled vegetables')
Row(Member_number='1784', Date=datetime.date(2015, 5, 26), items='pip fruit,
other vegetables')
Row(Member_number='1883', Date=datetime.date(2015, 5, 26), items='frankfurter,
butter milk')
Row(Member_number='2307', Date=datetime.date(2015, 5, 26), items='frankfurter,
```

```
hygiene articles, bottled beer')
Row(Member_number='2879', Date=datetime.date(2015, 5, 26), items='frankfurter,
newspapers')
Row(Member_number='3298', Date=datetime.date(2015, 5, 26), items='citrus fruit,
whole milk')
Row(Member_number='3532', Date=datetime.date(2015, 5, 26), items='other
vegetables, butter')
Row(Member_number='3638', Date=datetime.date(2015, 5, 26), items='pork, grapes')
Row(Member number='3726', Date=datetime.date(2015, 5, 26), items='sausage, other
vegetables, hard cheese')
Row(Member_number='3938', Date=datetime.date(2015, 5, 26), items='berries, ham')
Row(Member_number='3986', Date=datetime.date(2015, 5, 26), items='meat, citrus
fruit')
Row(Member_number='4036', Date=datetime.date(2015, 5, 26), items='pip fruit,
whole milk')
Row(Member_number='4288', Date=datetime.date(2015, 5, 26), items='berries, white
wine')
Row(Member number='4664', Date=datetime.date(2015, 5, 26), items='rolls/buns,
root vegetables, frozen vegetables, waffles')
Row(Member_number='4969', Date=datetime.date(2015, 5, 26), items='sausage,
bottled water')
Row(Member number='1000', Date=datetime.date(2015, 5, 27), items='soda, pickled
vegetables')
Row(Member_number='1449', Date=datetime.date(2015, 5, 27), items='whole milk,
soda')
Row(Member_number='1641', Date=datetime.date(2015, 5, 27), items='pip fruit,
canned beer, pork, white bread')
Row(Member_number='1885', Date=datetime.date(2015, 5, 27), items='butter milk,
waffles')
Row(Member_number='1890', Date=datetime.date(2015, 5, 27), items='liquor,
specialty chocolate')
Row(Member_number='2572', Date=datetime.date(2015, 5, 27), items='soda, dog
food')
Row(Member_number='2702', Date=datetime.date(2015, 5, 27), items='pork,
whipped/sour cream')
Row(Member number='2840', Date=datetime.date(2015, 5, 27), items='other
vegetables, frozen meals, rolls/buns, canned beer, white bread')
Row(Member_number='2961', Date=datetime.date(2015, 5, 27), items='frankfurter,
frozen potato products, newspapers, softener, abrasive cleaner')
Row(Member_number='3054', Date=datetime.date(2015, 5, 27), items='tropical
fruit, spread cheese, onions, mayonnaise')
Row(Member number='3415', Date=datetime.date(2015, 5, 27), items='pet care,
whole milk, curd, frozen vegetables')
Row(Member_number='3593', Date=datetime.date(2015, 5, 27), items='tropical
fruit, other vegetables')
Row(Member number='3822', Date=datetime.date(2015, 5, 27), items='ham, citrus
fruit, sugar, ice cream, whole milk, chocolate marshmallow, specialty bar,
candy')
```

```
Row(Member_number='3877', Date=datetime.date(2015, 5, 27), items='tropical
fruit, berries, chocolate')
Row(Member number='3959', Date=datetime.date(2015, 5, 27), items='pip fruit,
sliced cheese, dishes')
Row(Member number='4074', Date=datetime.date(2015, 5, 27), items='pork, cream
cheese ')
Row(Member number='4153', Date=datetime.date(2015, 5, 27), items='pickled
vegetables, meat')
Row(Member_number='4222', Date=datetime.date(2015, 5, 27), items='tropical
fruit, rum, flour')
Row(Member number='4406', Date=datetime.date(2015, 5, 27), items='tropical
fruit, chewing gum')
Row(Member number='4619', Date=datetime.date(2015, 5, 27), items='tropical
fruit, UHT-milk, whole milk')
Row(Member_number='4669', Date=datetime.date(2015, 5, 27), items='whole milk,
other vegetables')
Row(Member_number='4812', Date=datetime.date(2015, 5, 27), items='beverages,
soda, curd, liquor, whole milk, margarine, flour')
Row(Member_number='1026', Date=datetime.date(2015, 5, 28), items='root
vegetables, whipped/sour cream, canned beer')
Row(Member_number='1498', Date=datetime.date(2015, 5, 28), items='frankfurter,
dessert')
Row(Member_number='1634', Date=datetime.date(2015, 5, 28), items='rolls/buns,
bottled water, whole milk')
Row(Member_number='1845', Date=datetime.date(2015, 5, 28), items='onions,
rolls/buns')
Row(Member number='1846', Date=datetime.date(2015, 5, 28), items='pork, bottled
beer')
Row(Member number='1859', Date=datetime.date(2015, 5, 28), items='root
vegetables, meat')
Row(Member_number='2019', Date=datetime.date(2015, 5, 28), items='citrus fruit,
waffles')
Row(Member_number='2202', Date=datetime.date(2015, 5, 28), items='tropical
fruit, rolls/buns')
Row (Member number='2230', Date=datetime.date(2015, 5, 28), items='sausage,
tropical fruit, frankfurter, cream cheese, other vegetables, hard cheese,
chocolate, flour')
Row(Member_number='2376', Date=datetime.date(2015, 5, 28), items='sausage, whole
milk, margarine')
Row(Member_number='2578', Date=datetime.date(2015, 5, 28), items='brown bread,
root vegetables')
Row(Member number='2663', Date=datetime.date(2015, 5, 28), items='whole milk,
berries, yogurt')
Row(Member_number='2830', Date=datetime.date(2015, 5, 28), items='canned beer,
salty snack, soda')
Row(Member number='3672', Date=datetime.date(2015, 5, 28), items='whole milk,
berries, canned beer, sausage, chicken, zwieback, beverages')
Row(Member_number='3720', Date=datetime.date(2015, 5, 28), items='sausage, white
```

```
bread, candles')
Row(Member_number='3962', Date=datetime.date(2015, 5, 28), items='pork, yogurt,
coffee')
Row(Member_number='4432', Date=datetime.date(2015, 5, 28), items='whole milk,
female sanitary products')
Row(Member_number='4460', Date=datetime.date(2015, 5, 28), items='pastry,
red/blush wine')
Row(Member_number='4573', Date=datetime.date(2015, 5, 28), items='frankfurter,
packaged fruit/vegetables')
Row(Member_number='4605', Date=datetime.date(2015, 5, 28), items='pork, butter')
Row(Member_number='1235', Date=datetime.date(2015, 5, 29), items='shopping bags,
waffles')
Row(Member number='1303', Date=datetime.date(2015, 5, 29), items='whole milk,
pastry')
Row(Member_number='1366', Date=datetime.date(2015, 5, 29), items='tropical
fruit, beef, curd, rolls/buns, whipped/sour cream, whole milk, candles, cake
bar, flour')
Row(Member_number='1401', Date=datetime.date(2015, 5, 29), items='sausage,
soda')
Row(Member number='1599', Date=datetime.date(2015, 5, 29), items='tropical
fruit, pot plants, berries, other vegetables, shopping bags')
Row(Member_number='1632', Date=datetime.date(2015, 5, 29), items='house keeping
products, whole milk')
Row(Member number='1697', Date=datetime.date(2015, 5, 29), items='root
vegetables, kitchen towels')
Row(Member_number='1732', Date=datetime.date(2015, 5, 29), items='pork, long
life bakery product')
Row(Member number='1926', Date=datetime.date(2015, 5, 29), items='yogurt, brown
Row(Member_number='2167', Date=datetime.date(2015, 5, 29), items='pork,
specialty chocolate')
Row(Member_number='2249', Date=datetime.date(2015, 5, 29), items='long life
bakery product, bottled water')
Row(Member_number='2746', Date=datetime.date(2015, 5, 29), items='bottled beer,
soups, detergent')
Row(Member_number='2985', Date=datetime.date(2015, 5, 29), items='citrus fruit,
whole milk')
Row(Member_number='3077', Date=datetime.date(2015, 5, 29), items='canned beer,
turkey, pastry, bottled water, butter')
Row(Member_number='3232', Date=datetime.date(2015, 5, 29), items='berries, other
vegetables')
Row(Member_number='3290', Date=datetime.date(2015, 5, 29), items='sausage,
Row(Member_number='3471', Date=datetime.date(2015, 5, 29), items='pastry,
liquor')
Row(Member_number='3513', Date=datetime.date(2015, 5, 29), items='onions,
waffles, bottled beer')
Row(Member number='4105', Date=datetime.date(2015, 5, 29), items='tropical
```

```
fruit, root vegetables')
Row(Member_number='4152', Date=datetime.date(2015, 5, 29), items='root
vegetables, white bread, pasta, bottled beer')
Row(Member_number='4531', Date=datetime.date(2015, 5, 29), items='frankfurter,
shopping bags')
Row(Member_number='1283', Date=datetime.date(2015, 5, 30), items='bottled water,
newspapers, specialty bar')
Row(Member_number='1366', Date=datetime.date(2015, 5, 30), items='whole milk,
waffles')
Row(Member_number='2228', Date=datetime.date(2015, 5, 30), items='sugar,
shopping bags')
Row(Member_number='2229', Date=datetime.date(2015, 5, 30), items='chocolate,
root vegetables')
Row(Member_number='2343', Date=datetime.date(2015, 5, 30), items='sausage,
beverages')
Row(Member_number='2441', Date=datetime.date(2015, 5, 30), items='sausage,
bottled water, whole milk')
Row(Member_number='2519', Date=datetime.date(2015, 5, 30), items='chicken,
whipped/sour cream')
Row(Member_number='2719', Date=datetime.date(2015, 5, 30), items='frankfurter,
whole milk')
Row(Member number='3590', Date=datetime.date(2015, 5, 30), items='seasonal
products, salt')
Row(Member_number='3664', Date=datetime.date(2015, 5, 30), items='whole milk,
other vegetables')
Row(Member_number='3717', Date=datetime.date(2015, 5, 30), items='hamburger
meat, frozen vegetables')
Row(Member_number='3967', Date=datetime.date(2015, 5, 30), items='pasta, yogurt,
specialty bar')
Row(Member_number='4163', Date=datetime.date(2015, 5, 30), items='frankfurter,
dishes, rolls/buns')
Row(Member_number='4260', Date=datetime.date(2015, 5, 30), items='sausage, root
vegetables, canned beer, rolls/buns')
Row(Member_number='4548', Date=datetime.date(2015, 5, 30), items='whole milk,
cream cheese ')
Row(Member_number='4671', Date=datetime.date(2015, 5, 30), items='hamburger
meat, newspapers')
Row(Member_number='1039', Date=datetime.date(2015, 5, 31), items='salty snack,
rolls/buns')
Row(Member_number='1422', Date=datetime.date(2015, 5, 31), items='condensed
milk, processed cheese, rolls/buns')
Row(Member_number='1583', Date=datetime.date(2015, 5, 31), items='bottled water,
pastry, fruit/vegetable juice')
Row(Member_number='1739', Date=datetime.date(2015, 5, 31), items='sausage,
soda')
Row(Member number='1853', Date=datetime.date(2015, 5, 31), items='beef, ice
cream')
Row(Member number='2040', Date=datetime.date(2015, 5, 31), items='ham, tropical
```

```
fruit, popcorn')
Row(Member number='2247', Date=datetime.date(2015, 5, 31), items='citrus fruit,
other vegetables, fruit/vegetable juice, specialty bar, canned beer')
Row(Member_number='2288', Date=datetime.date(2015, 5, 31), items='coffee,
sausage, shopping bags, specialty bar, red/blush wine')
Row(Member_number='2441', Date=datetime.date(2015, 5, 31), items='canned beer,
yogurt')
Row(Member_number='2612', Date=datetime.date(2015, 5, 31), items='dessert,
beverages, frozen meals, red/blush wine')
Row(Member_number='3029', Date=datetime.date(2015, 5, 31), items='long life
bakery product, butter milk')
Row(Member_number='3410', Date=datetime.date(2015, 5, 31), items='yogurt,
rolls/buns')
Row(Member number='3897', Date=datetime.date(2015, 5, 31), items='hamburger
meat, root vegetables')
Row(Member_number='4215', Date=datetime.date(2015, 5, 31), items='pork, canned
beer, rolls/buns, yogurt, mustard, oil, popcorn, whipped/sour cream')
Row(Member_number='4782', Date=datetime.date(2015, 5, 31), items='canned beer,
berries')
Row(Member number='1023', Date=datetime.date(2015, 6, 1), items='whipped/sour
cream, root vegetables, rolls/buns, packaged fruit/vegetables')
Row(Member_number='1500', Date=datetime.date(2015, 6, 1), items='rolls/buns,
frankfurter, soda, canned fish')
Row(Member_number='2049', Date=datetime.date(2015, 6, 1), items='pork, grapes')
Row(Member_number='2226', Date=datetime.date(2015, 6, 1), items='hamburger meat,
Row(Member number='2351', Date=datetime.date(2015, 6, 1), items='pip fruit,
rolls/buns')
Row(Member_number='2563', Date=datetime.date(2015, 6, 1), items='frozen meals,
other vegetables, bottled beer')
Row(Member_number='2729', Date=datetime.date(2015, 6, 1), items='citrus fruit,
red/blush wine')
Row(Member number='2831', Date=datetime.date(2015, 6, 1), items='frankfurter,
frozen dessert')
Row(Member number='2989', Date=datetime.date(2015, 6, 1), items='beef, pip
fruit')
Row(Member number='3365', Date=datetime.date(2015, 6, 1), items='pastry, soda')
Row(Member_number='3375', Date=datetime.date(2015, 6, 1), items='pork, citrus
fruit')
Row(Member_number='3402', Date=datetime.date(2015, 6, 1), items='curd, other
vegetables, shopping bags')
Row(Member_number='3587', Date=datetime.date(2015, 6, 1), items='liquor, sugar')
Row(Member number='3686', Date=datetime.date(2015, 6, 1), items='whole milk')
Row(Member_number='3835', Date=datetime.date(2015, 6, 1), items='tropical fruit,
soda, salty snack')
Row(Member_number='3912', Date=datetime.date(2015, 6, 1), items='berries,
rolls/buns, pastry')
Row(Member number='4117', Date=datetime.date(2015, 6, 1), items='brown bread,
```

```
bottled beer')
Row(Member_number='4405', Date=datetime.date(2015, 6, 1), items='soda, bottled
water, whole milk, other vegetables, hygiene articles')
Row(Member_number='4448', Date=datetime.date(2015, 6, 1), items='frankfurter,
tropical fruit')
Row(Member_number='4494', Date=datetime.date(2015, 6, 1), items='ice cream,
rolls/buns')
Row(Member_number='1083', Date=datetime.date(2015, 6, 2), items='pork, sliced
cheese')
Row(Member_number='1377', Date=datetime.date(2015, 6, 2), items='meat, whole
milk, bottled water, mayonnaise')
Row(Member_number='1379', Date=datetime.date(2015, 6, 2), items='chicken,
onions, white bread')
Row(Member number='2400', Date=datetime.date(2015, 6, 2), items='ice cream,
whole milk, margarine')
Row(Member_number='2755', Date=datetime.date(2015, 6, 2), items='rolls/buns,
fruit/vegetable juice')
Row(Member_number='2758', Date=datetime.date(2015, 6, 2), items='other
vegetables, curd')
Row(Member number='2789', Date=datetime.date(2015, 6, 2), items='pastry, curd,
butter, whipped/sour cream')
Row(Member_number='2967', Date=datetime.date(2015, 6, 2), items='yogurt,
domestic eggs')
Row(Member_number='3180', Date=datetime.date(2015, 6, 2), items='ham, sugar')
Row(Member_number='3472', Date=datetime.date(2015, 6, 2), items='citrus fruit,
whole milk, chocolate')
Row(Member_number='3903', Date=datetime.date(2015, 6, 2), items='other
vegetables, hygiene articles, dessert, margarine, fruit/vegetable juice')
Row(Member_number='3999', Date=datetime.date(2015, 6, 2), items='whole milk,
processed cheese, curd cheese')
Row(Member_number='4098', Date=datetime.date(2015, 6, 2), items='pork, whole
Row(Member number='4110', Date=datetime.date(2015, 6, 2), items='nuts/prunes,
brown bread, newspapers')
Row(Member_number='4197', Date=datetime.date(2015, 6, 2), items='chicken, house
keeping products')
Row(Member number='4694', Date=datetime.date(2015, 6, 2), items='canned beer,
citrus fruit')
Row(Member_number='4726', Date=datetime.date(2015, 6, 2), items='whole milk,
liquor (appetizer)')
Row(Member_number='4869', Date=datetime.date(2015, 6, 2), items='chicken,
hygiene articles')
Row(Member_number='4972', Date=datetime.date(2015, 6, 2), items='citrus fruit,
chicken')
Row(Member_number='1081', Date=datetime.date(2015, 6, 3), items='other
vegetables, frankfurter, newspapers, whole milk, pastry')
Row(Member_number='1168', Date=datetime.date(2015, 6, 3), items='frankfurter,
frozen vegetables')
```

```
Row(Member_number='1283', Date=datetime.date(2015, 6, 3), items='napkins,
whipped/sour cream')
Row(Member_number='1291', Date=datetime.date(2015, 6, 3), items='whole milk,
rolls/buns')
Row(Member number='1381', Date=datetime.date(2015, 6, 3), items='other
vegetables, soda, UHT-milk, salty snack')
Row(Member number='1499', Date=datetime.date(2015, 6, 3), items='rolls/buns,
frozen vegetables')
Row(Member number='1949', Date=datetime.date(2015, 6, 3), items='ham, berries')
Row(Member_number='1978', Date=datetime.date(2015, 6, 3), items='beef, brown
bread')
Row(Member_number='2175', Date=datetime.date(2015, 6, 3), items='other
vegetables, sliced cheese')
Row(Member number='2582', Date=datetime.date(2015, 6, 3), items='chicken, other
vegetables, bathroom cleaner, grapes, fruit/vegetable juice, soda')
Row(Member_number='2625', Date=datetime.date(2015, 6, 3), items='bottled beer,
chicken, baking powder, curd')
Row(Member number='2690', Date=datetime.date(2015, 6, 3), items='chicken, whole
milk')
Row(Member number='3100', Date=datetime.date(2015, 6, 3), items='beef, waffles,
salty snack')
Row(Member number='3353', Date=datetime.date(2015, 6, 3), items='onions, bottled
Row(Member_number='3585', Date=datetime.date(2015, 6, 3), items='ham, frozen
meals')
Row(Member number='3758', Date=datetime.date(2015, 6, 3), items='pork, yogurt')
Row(Member_number='3856', Date=datetime.date(2015, 6, 3), items='sausage, long
life bakery product')
Row(Member number='4047', Date=datetime.date(2015, 6, 3), items='cream cheese,
beverages')
Row(Member_number='4106', Date=datetime.date(2015, 6, 3), items='grapes, yogurt,
condensed milk')
Row(Member number='4179', Date=datetime.date(2015, 6, 3), items='root
vegetables, grapes, brandy, pickled vegetables, pastry')
Row(Member_number='4229', Date=datetime.date(2015, 6, 3), items='sausage, soda,
rolls/buns')
Row(Member number='4495', Date=datetime.date(2015, 6, 3), items='citrus fruit,
waffles')
Row(Member_number='1058', Date=datetime.date(2015, 6, 4), items='sausage,
bottled water')
Row(Member_number='1109', Date=datetime.date(2015, 6, 4), items='citrus fruit,
frozen vegetables, margarine')
Row(Member_number='1154', Date=datetime.date(2015, 6, 4), items='root
vegetables, other vegetables, frozen vegetables')
Row(Member_number='1230', Date=datetime.date(2015, 6, 4), items='whole milk,
other vegetables')
Row(Member_number='1558', Date=datetime.date(2015, 6, 4), items='finished
products, other vegetables')
```

```
Row(Member number='1613', Date=datetime.date(2015, 6, 4), items='turkey,
whipped/sour cream')
Row(Member number='1752', Date=datetime.date(2015, 6, 4), items='other
vegetables, cream cheese ')
Row(Member number='2040', Date=datetime.date(2015, 6, 4), items='chicken, oil,
chocolate, candy')
Row(Member number='2095', Date=datetime.date(2015, 6, 4), items='pip fruit,
frozen meals, whole milk, rolls/buns')
Row(Member_number='2454', Date=datetime.date(2015, 6, 4), items='ham,
rolls/buns')
Row(Member number='2547', Date=datetime.date(2015, 6, 4), items='frankfurter,
other vegetables')
Row(Member_number='2666', Date=datetime.date(2015, 6, 4), items='sausage, whole
milk, dessert, UHT-milk')
Row(Member_number='2933', Date=datetime.date(2015, 6, 4), items='tropical fruit,
pip fruit, herbs, yogurt, bottled water, sweet spreads')
Row(Member_number='3715', Date=datetime.date(2015, 6, 4), items='other
vegetables, rolls/buns')
Row(Member_number='4536', Date=datetime.date(2015, 6, 4), items='tropical fruit,
pip fruit')
Row(Member number='4831', Date=datetime.date(2015, 6, 4), items='whole milk,
sausage, yogurt, other vegetables, misc. beverages')
Row(Member_number='1107', Date=datetime.date(2015, 6, 5), items='citrus fruit,
misc. beverages')
Row(Member_number='1651', Date=datetime.date(2015, 6, 5), items='tropical fruit,
other vegetables')
Row(Member number='1948', Date=datetime.date(2015, 6, 5), items='baking powder,
pet care, yogurt, frozen vegetables')
Row(Member_number='2232', Date=datetime.date(2015, 6, 5), items='bottled beer,
whole milk, citrus fruit, other vegetables, soft cheese')
Row(Member_number='2370', Date=datetime.date(2015, 6, 5), items='curd, UHT-milk,
shopping bags')
Row(Member_number='2599', Date=datetime.date(2015, 6, 5), items='chicken, curd')
Row(Member_number='2795', Date=datetime.date(2015, 6, 5), items='citrus fruit,
white bread')
Row(Member_number='3023', Date=datetime.date(2015, 6, 5), items='onions,
hamburger meat')
Row(Member_number='3050', Date=datetime.date(2015, 6, 5), items='chicken, beef,
white bread, semi-finished bread')
Row(Member_number='3160', Date=datetime.date(2015, 6, 5), items='other
vegetables, processed cheese')
Row(Member number='3743', Date=datetime.date(2015, 6, 5), items='canned beer,
sliced cheese, cake bar')
Row(Member_number='4054', Date=datetime.date(2015, 6, 5), items='rolls/buns,
whole milk')
Row(Member number='4204', Date=datetime.date(2015, 6, 5), items='spread cheese,
shopping bags')
Row(Member_number='4344', Date=datetime.date(2015, 6, 5), items='citrus fruit,
```

```
specialty bar, domestic eggs')
Row(Member_number='4499', Date=datetime.date(2015, 6, 5), items='bottled beer,
beef, frozen vegetables, shopping bags')
Row(Member_number='1444', Date=datetime.date(2015, 6, 6), items='butter, syrup,
pickled vegetables, whole milk')
Row(Member_number='1711', Date=datetime.date(2015, 6, 6), items='soda')
Row(Member number='1781', Date=datetime.date(2015, 6, 6), items='specialty
chocolate, butter milk')
Row(Member number='1888', Date=datetime.date(2015, 6, 6), items='ham, beef,
sliced cheese, butter milk')
Row(Member number='1997', Date=datetime.date(2015, 6, 6), items='frankfurter,
berries, bottled water, processed cheese, pickled vegetables')
Row(Member_number='2311', Date=datetime.date(2015, 6, 6), items='bottled water,
other vegetables, light bulbs')
Row(Member_number='2434', Date=datetime.date(2015, 6, 6), items='beef, pastry')
Row(Member number='2440', Date=datetime.date(2015, 6, 6), items='sausage, whole
milk, bottled water')
Row(Member_number='2551', Date=datetime.date(2015, 6, 6), items='pot plants,
rolls/buns')
Row(Member number='2902', Date=datetime.date(2015, 6, 6), items='whole milk,
Row(Member number='2904', Date=datetime.date(2015, 6, 6), items='specialty
chocolate, tropical fruit')
Row(Member number='2938', Date=datetime.date(2015, 6, 6), items='whole milk,
pasta, whipped/sour cream')
Row(Member_number='2955', Date=datetime.date(2015, 6, 6), items='tropical fruit,
whole milk')
Row(Member_number='3048', Date=datetime.date(2015, 6, 6), items='long life
bakery product, beef, tidbits, butter')
Row(Member_number='3162', Date=datetime.date(2015, 6, 6), items='soda, bottled
water')
Row(Member_number='3296', Date=datetime.date(2015, 6, 6), items='whole milk,
organic sausage, specialty bar, yogurt')
Row(Member_number='3324', Date=datetime.date(2015, 6, 6), items='spices,
butter')
Row(Member_number='3491', Date=datetime.date(2015, 6, 6), items='fruit/vegetable
juice, root vegetables')
Row(Member_number='3638', Date=datetime.date(2015, 6, 6), items='citrus fruit,
pip fruit')
Row(Member_number='3767', Date=datetime.date(2015, 6, 6), items='bottled beer,
beverages')
Row(Member number='3796', Date=datetime.date(2015, 6, 6), items='seasonal
products, bottled beer')
Row(Member number='4033', Date=datetime.date(2015, 6, 6), items='turkey, root
vegetables')
Row(Member number='4272', Date=datetime.date(2015, 6, 6), items='coffee,
berries, grapes, cream cheese, cat food')
Row(Member_number='4286', Date=datetime.date(2015, 6, 6), items='other
```

```
vegetables, citrus fruit, rolls/buns')
Row(Member_number='4426', Date=datetime.date(2015, 6, 6), items='bottled beer,
whole milk')
Row(Member_number='4700', Date=datetime.date(2015, 6, 6), items='whole milk,
dessert')
Row(Member_number='4708', Date=datetime.date(2015, 6, 6), items='ham, processed
cheese')
Row(Member_number='4746', Date=datetime.date(2015, 6, 6), items='ham, cake bar,
whole milk')
Row(Member_number='1052', Date=datetime.date(2015, 6, 7), items='butter milk,
yogurt, margarine')
Row(Member number='1361', Date=datetime.date(2015, 6, 7), items='other
vegetables, liquor')
Row(Member number='1472', Date=datetime.date(2015, 6, 7), items='root
vegetables, whole milk')
Row(Member_number='1482', Date=datetime.date(2015, 6, 7), items='bottled beer,
whole milk, soda, soft cheese, shopping bags, sugar')
Row(Member_number='1605', Date=datetime.date(2015, 6, 7), items='sausage,
seasonal products')
Row(Member number='1806', Date=datetime.date(2015, 6, 7), items='beverages,
hamburger meat, frankfurter, soda, root vegetables, butter, cream cheese ')
Row(Member number='1848', Date=datetime.date(2015, 6, 7), items='hamburger meat,
whole milk')
Row(Member_number='1983', Date=datetime.date(2015, 6, 7), items='berries,
hamburger meat')
Row(Member number='2327', Date=datetime.date(2015, 6, 7), items='chicken, pip
fruit')
Row(Member number='2532', Date=datetime.date(2015, 6, 7), items='onions,
hamburger meat, whole milk, tropical fruit, pet care, root vegetables, yogurt,
flour')
Row(Member_number='2715', Date=datetime.date(2015, 6, 7), items='ham, canned
beer, salty snack')
Row(Member_number='3504', Date=datetime.date(2015, 6, 7), items='pip fruit, root
vegetables, frozen meals, hamburger meat, sugar, soda, spread cheese')
Row(Member number='3601', Date=datetime.date(2015, 6, 7), items='ice cream,
coffee')
Row(Member number='4050', Date=datetime.date(2015, 6, 7), items='chicken,
butter, curd, flower (seeds)')
Row(Member_number='4641', Date=datetime.date(2015, 6, 7), items='meat, pip
Row(Member_number='4721', Date=datetime.date(2015, 6, 7), items='bottled water,
grapes')
Row(Member_number='1149', Date=datetime.date(2015, 6, 8), items='soda, bottled
beer, chicken, yogurt')
Row(Member_number='1162', Date=datetime.date(2015, 6, 8), items='canned beer,
citrus fruit')
Row(Member_number='1524', Date=datetime.date(2015, 6, 8), items='UHT-milk, cream
cheese , waffles')
```

```
Row(Member number='1582', Date=datetime.date(2015, 6, 8), items='curd, shopping
bags')
Row(Member_number='1608', Date=datetime.date(2015, 6, 8), items='whole milk,
red/blush wine, shopping bags, cream cheese, canned beer')
Row(Member number='1934', Date=datetime.date(2015, 6, 8), items='tropical fruit,
grapes, sausage, fruit/vegetable juice, curd, other vegetables, whipped/sour
cream')
Row(Member_number='1954', Date=datetime.date(2015, 6, 8), items='shopping bags,
pork, canned fish, whole milk, onions, bottled beer, canned beer')
Row(Member_number='2176', Date=datetime.date(2015, 6, 8), items='whole milk,
brown bread')
Row(Member number='2775', Date=datetime.date(2015, 6, 8), items='pip fruit,
grapes')
Row(Member_number='3595', Date=datetime.date(2015, 6, 8), items='bottled beer,
other vegetables')
Row(Member_number='3682', Date=datetime.date(2015, 6, 8), items='cooking
chocolate, oil')
Row(Member_number='3739', Date=datetime.date(2015, 6, 8), items='rolls/buns,
whole milk, soda')
Row(Member number='3741', Date=datetime.date(2015, 6, 8), items='butter milk,
ham, whole milk, chicken, domestic eggs, shopping bags, chewing gum, white
bread')
Row(Member_number='3761', Date=datetime.date(2015, 6, 8), items='citrus fruit,
beverages')
Row(Member_number='4019', Date=datetime.date(2015, 6, 8), items='pork, sliced
cheese')
Row(Member number='4287', Date=datetime.date(2015, 6, 8), items='soda, root
vegetables')
Row(Member number='4340', Date=datetime.date(2015, 6, 8), items='pork, frozen
Row(Member number='4494', Date=datetime.date(2015, 6, 8), items='beef, frozen
meals, white bread')
Row(Member_number='4942', Date=datetime.date(2015, 6, 8), items='sausage,
chocolate, specialty chocolate, cocoa drinks')
Row(Member number='4967', Date=datetime.date(2015, 6, 8), items='pip fruit,
whole milk')
Row(Member number='1279', Date=datetime.date(2015, 6, 9), items='tropical fruit,
yogurt, sausage, rolls/buns')
Row(Member_number='1357', Date=datetime.date(2015, 6, 9), items='root
vegetables, canned beer')
Row(Member_number='1440', Date=datetime.date(2015, 6, 9), items='shopping bags')
Row(Member_number='2165', Date=datetime.date(2015, 6, 9), items='citrus fruit,
Row(Member number='2289', Date=datetime.date(2015, 6, 9), items='brown bread,
ice cream, fruit/vegetable juice')
Row(Member_number='2314', Date=datetime.date(2015, 6, 9), items='citrus fruit,
yogurt')
Row(Member_number='2402', Date=datetime.date(2015, 6, 9), items='whole milk,
```

```
soda, bottled water, pastry')
Row(Member_number='2899', Date=datetime.date(2015, 6, 9), items='sausage,
pastry')
Row(Member_number='3581', Date=datetime.date(2015, 6, 9), items='UHT-milk,
dishes, frozen dessert')
Row(Member_number='3789', Date=datetime.date(2015, 6, 9), items='margarine,
brandy, root vegetables, shopping bags')
Row(Member_number='4167', Date=datetime.date(2015, 6, 9), items='frankfurter,
condensed milk')
Row(Member_number='4267', Date=datetime.date(2015, 6, 9), items='citrus fruit,
whole milk')
Row(Member number='4338', Date=datetime.date(2015, 6, 9), items='frankfurter,
onions')
Row(Member_number='4728', Date=datetime.date(2015, 6, 9), items='other
vegetables, rolls/buns')
Row(Member_number='4794', Date=datetime.date(2015, 6, 9), items='sausage,
rolls/buns, soda, other vegetables')
Row(Member_number='4934', Date=datetime.date(2015, 6, 9), items='rolls/buns,
other vegetables')
Row(Member number='4944', Date=datetime.date(2015, 6, 9), items='domestic eggs,
bottled beer')
Row(Member number='1048', Date=datetime.date(2015, 6, 10), items='rolls/buns,
condensed milk, whole milk, soda')
Row(Member_number='1362', Date=datetime.date(2015, 6, 10), items='curd, whole
milk, bottled water')
Row(Member number='1825', Date=datetime.date(2015, 6, 10), items='chicken,
bottled beer, soda, domestic eggs, other vegetables')
Row(Member_number='2160', Date=datetime.date(2015, 6, 10), items='bottled beer,
dishes')
Row(Member_number='2298', Date=datetime.date(2015, 6, 10), items='beef,
newspapers, misc. beverages')
Row(Member_number='2432', Date=datetime.date(2015, 6, 10), items='whole milk,
condensed milk')
Row(Member_number='2508', Date=datetime.date(2015, 6, 10), items='canned beer,
semi-finished bread')
Row(Member_number='2893', Date=datetime.date(2015, 6, 10), items='tropical
fruit, citrus fruit')
Row(Member_number='3048', Date=datetime.date(2015, 6, 10), items='frankfurter,
rolls/buns, coffee, white wine')
Row(Member_number='3094', Date=datetime.date(2015, 6, 10), items='tropical
fruit, grapes')
Row(Member number='3300', Date=datetime.date(2015, 6, 10), items='hamburger
meat, root vegetables, fruit/vegetable juice')
Row(Member number='3307', Date=datetime.date(2015, 6, 10), items='citrus fruit,
yogurt, specialty bar, chocolate')
Row(Member number='3803', Date=datetime.date(2015, 6, 10), items='root
vegetables, fruit/vegetable juice, berries, newspapers, chewing gum')
Row(Member_number='3903', Date=datetime.date(2015, 6, 10), items='canned beer,
```

```
citrus fruit, rolls/buns, condensed milk, skin care')
Row(Member_number='4444', Date=datetime.date(2015, 6, 10), items='soda, root
vegetables, fruit/vegetable juice')
Row(Member_number='4727', Date=datetime.date(2015, 6, 10), items='bottled water,
root vegetables')
Row(Member_number='4891', Date=datetime.date(2015, 6, 10), items='chicken, whole
milk, rolls/buns')
Row(Member_number='1296', Date=datetime.date(2015, 6, 11), items='pip fruit,
root vegetables, beverages')
Row(Member_number='1515', Date=datetime.date(2015, 6, 11), items='bottled beer,
candy')
Row(Member_number='1612', Date=datetime.date(2015, 6, 11), items='bottled water,
frozen vegetables')
Row(Member number='2010', Date=datetime.date(2015, 6, 11), items='soda, whole
milk, specialty bar, bottled water')
Row(Member number='2092', Date=datetime.date(2015, 6, 11), items='newspapers,
root vegetables, margarine')
Row(Member_number='2114', Date=datetime.date(2015, 6, 11), items='whole milk')
Row(Member_number='2513', Date=datetime.date(2015, 6, 11), items='ice cream,
rolls/buns, bottled beer, canned beer')
Row(Member_number='2775', Date=datetime.date(2015, 6, 11), items='pork, sausage,
whole milk, frozen vegetables')
Row(Member_number='3268', Date=datetime.date(2015, 6, 11), items='canned beer,
long life bakery product, rolls/buns')
Row(Member_number='3744', Date=datetime.date(2015, 6, 11), items='canned beer,
misc. beverages, liqueur')
Row(Member_number='3894', Date=datetime.date(2015, 6, 11), items='finished
products, other vegetables')
Row(Member_number='3929', Date=datetime.date(2015, 6, 11), items='pork, spread
cheese')
Row(Member number='4038', Date=datetime.date(2015, 6, 11), items='root
vegetables, tropical fruit, bottled water, white bread, processed cheese,
yogurt, beverages')
Row(Member_number='4130', Date=datetime.date(2015, 6, 11), items='rolls/buns,
tropical fruit, root vegetables, condensed milk')
Row(Member_number='4134', Date=datetime.date(2015, 6, 11), items='meat, whole
Row(Member_number='4144', Date=datetime.date(2015, 6, 11), items='root
vegetables, waffles')
Row(Member_number='4166', Date=datetime.date(2015, 6, 11), items='citrus fruit,
canned beer, rolls/buns, whole milk')
Row(Member_number='4326', Date=datetime.date(2015, 6, 11), items='packaged
fruit/vegetables, liquor, shopping bags')
Row(Member number='4358', Date=datetime.date(2015, 6, 11), items='beef, pasta')
Row(Member_number='4486', Date=datetime.date(2015, 6, 11), items='berries,
rolls/buns')
Row(Member_number='4877', Date=datetime.date(2015, 6, 11), items='whole milk,
ham, other vegetables, rum, canned beer')
```

```
Row(Member number='1440', Date=datetime.date(2015, 6, 12), items='sausage,
tropical fruit')
Row(Member_number='1843', Date=datetime.date(2015, 6, 12), items='other
vegetables, chicken')
Row(Member number='1923', Date=datetime.date(2015, 6, 12), items='beef, other
vegetables')
Row (Member number='2238', Date=datetime.date(2015, 6, 12), items='sausage,
butter, yogurt')
Row(Member number='2500', Date=datetime.date(2015, 6, 12), items='citrus fruit,
fruit/vegetable juice, pickled vegetables')
Row(Member_number='2520', Date=datetime.date(2015, 6, 12), items='whipped/sour
cream, soda')
Row(Member number='2629', Date=datetime.date(2015, 6, 12), items='liver loaf,
chicken, whole milk, canned beer, fruit/vegetable juice, frozen dessert, light
bulbs, condensed milk')
Row(Member_number='3066', Date=datetime.date(2015, 6, 12), items='pastry, soda')
Row(Member_number='3188', Date=datetime.date(2015, 6, 12), items='tropical
fruit, other vegetables')
Row(Member_number='3732', Date=datetime.date(2015, 6, 12), items='chicken, salty
snack, yogurt')
Row(Member number='3737', Date=datetime.date(2015, 6, 12), items='frankfurter,
sausage, packaged fruit/vegetables, yogurt, bottled beer, shopping bags')
Row(Member_number='3836', Date=datetime.date(2015, 6, 12), items='yogurt, other
vegetables')
Row(Member_number='4224', Date=datetime.date(2015, 6, 12), items='bottled beer,
pastry')
Row(Member_number='4226', Date=datetime.date(2015, 6, 12), items='sausage,
domestic eggs, frozen meals')
Row(Member_number='4277', Date=datetime.date(2015, 6, 12), items='bottled water,
rolls/buns, popcorn')
Row(Member_number='4280', Date=datetime.date(2015, 6, 12), items='ham, white
wine, pasta')
Row(Member_number='4645', Date=datetime.date(2015, 6, 12), items='tropical
fruit, hamburger meat, bottled beer, yogurt')
Row(Member number='1142', Date=datetime.date(2015, 6, 13), items='chicken, brown
bread')
Row (Member number='1218', Date=datetime.date(2015, 6, 13), items='other
vegetables, fruit/vegetable juice')
Row(Member_number='1348', Date=datetime.date(2015, 6, 13), items='root
vegetables, chewing gum, chocolate, bottled beer')
Row(Member_number='1799', Date=datetime.date(2015, 6, 13), items='canned beer,
canned fish')
Row(Member_number='2265', Date=datetime.date(2015, 6, 13), items='frankfurter,
chicken, white bread, whipped/sour cream, specialty fat, soft cheese')
Row(Member_number='2494', Date=datetime.date(2015, 6, 13), items='pot plants,
packaged fruit/vegetables, butter, rolls/buns')
Row(Member_number='2530', Date=datetime.date(2015, 6, 13), items='softener,
yogurt, cling film/bags')
```

```
Row(Member number='2916', Date=datetime.date(2015, 6, 13), items='house keeping
products, salty snack, semi-finished bread, other vegetables, whole milk,
domestic eggs, chocolate marshmallow')
Row(Member_number='3071', Date=datetime.date(2015, 6, 13), items='sausage,
frozen meals')
Row(Member_number='3094', Date=datetime.date(2015, 6, 13), items='sausage,
Row(Member_number='3128', Date=datetime.date(2015, 6, 13), items='cream cheese,
meat, rolls/buns, yogurt, frozen meals, whipped/sour cream')
Row(Member_number='3352', Date=datetime.date(2015, 6, 13), items='sausage,
sugar, yogurt')
Row(Member_number='3463', Date=datetime.date(2015, 6, 13), items='pip fruit,
bottled water')
Row(Member_number='3574', Date=datetime.date(2015, 6, 13), items='tropical
fruit, domestic eggs')
Row(Member_number='3612', Date=datetime.date(2015, 6, 13), items='canned beer,
brown bread')
Row(Member_number='3863', Date=datetime.date(2015, 6, 13), items='brown bread,
pet care')
Row(Member number='3947', Date=datetime.date(2015, 6, 13), items='meat, liver
loaf')
Row(Member number='4153', Date=datetime.date(2015, 6, 13), items='house keeping
products, fruit/vegetable juice')
Row(Member_number='4246', Date=datetime.date(2015, 6, 13), items='yogurt,
rolls/buns')
Row(Member number='4437', Date=datetime.date(2015, 6, 13), items='hamburger
meat, root vegetables')
Row(Member number='4553', Date=datetime.date(2015, 6, 13), items='curd, coffee,
baking powder')
Row(Member_number='4564', Date=datetime.date(2015, 6, 13), items='cat food, pip
fruit, white bread')
Row(Member_number='4591', Date=datetime.date(2015, 6, 13), items='zwieback,
onions, female sanitary products')
Row(Member_number='1006', Date=datetime.date(2015, 6, 14), items='whole milk,
frankfurter, chicken, flour, chocolate, bottled beer, rolls/buns')
Row(Member_number='1159', Date=datetime.date(2015, 6, 14), items='citrus fruit,
soda')
Row(Member_number='1483', Date=datetime.date(2015, 6, 14), items='root
vegetables, canned beer, specialty cheese, rolls/buns')
Row(Member_number='1580', Date=datetime.date(2015, 6, 14), items='citrus fruit,
whole milk')
Row(Member_number='1950', Date=datetime.date(2015, 6, 14), items='other
vegetables, sliced cheese')
Row(Member_number='2549', Date=datetime.date(2015, 6, 14), items='pip fruit,
frozen fish')
Row(Member number='2958', Date=datetime.date(2015, 6, 14), items='rolls/buns,
hamburger meat')
Row(Member_number='2982', Date=datetime.date(2015, 6, 14), items='canned beer,
```

```
soda')
Row(Member_number='3169', Date=datetime.date(2015, 6, 14), items='other
vegetables, pip fruit, UHT-milk, herbs')
Row(Member_number='3195', Date=datetime.date(2015, 6, 14), items='pork,
rolls/buns')
Row(Member_number='3465', Date=datetime.date(2015, 6, 14), items='coffee,
berries, pickled vegetables')
Row(Member_number='3497', Date=datetime.date(2015, 6, 14), items='other
vegetables, soda, brown bread, whole milk, yogurt, cling film/bags, pastry')
Row(Member_number='3741', Date=datetime.date(2015, 6, 14), items='root
vegetables, pastry, candles')
Row(Member_number='3784', Date=datetime.date(2015, 6, 14), items='seasonal
products, herbs, spread cheese, pickled vegetables')
Row(Member number='4006', Date=datetime.date(2015, 6, 14), items='sausage, root
vegetables, kitchen towels')
Row(Member_number='4092', Date=datetime.date(2015, 6, 14), items='onions,
candy')
Row(Member number='4125', Date=datetime.date(2015, 6, 14), items='whole milk,
other vegetables')
Row(Member number='4134', Date=datetime.date(2015, 6, 14), items='citrus fruit,
specialty chocolate')
Row(Member number='4273', Date=datetime.date(2015, 6, 14), items='other
vegetables, soda')
Row(Member number='4492', Date=datetime.date(2015, 6, 14), items='sausage,
frozen meals, soda')
Row(Member number='4509', Date=datetime.date(2015, 6, 14), items='pork, whole
milk')
Row(Member_number='4646', Date=datetime.date(2015, 6, 14), items='frankfurter,
hamburger meat')
Row(Member_number='4877', Date=datetime.date(2015, 6, 14), items='sausage,
domestic eggs')
Row(Member_number='1032', Date=datetime.date(2015, 6, 15), items='berries, soda,
butter, other vegetables, white bread, cream cheese ')
Row(Member_number='1033', Date=datetime.date(2015, 6, 15), items='chicken,
waffles')
Row(Member_number='1136', Date=datetime.date(2015, 6, 15), items='herbs, citrus
Row(Member_number='1658', Date=datetime.date(2015, 6, 15), items='beef, butter')
Row(Member_number='1757', Date=datetime.date(2015, 6, 15), items='frankfurter,
finished products, canned beer, hamburger meat, packaged fruit/vegetables,
whipped/sour cream, curd, sweet spreads, white bread')
Row(Member number='1874', Date=datetime.date(2015, 6, 15), items='citrus fruit,
Row(Member_number='2356', Date=datetime.date(2015, 6, 15), items='beef, canned
beer, pastry, whole milk')
Row(Member_number='2659', Date=datetime.date(2015, 6, 15), items='tropical
fruit, yogurt')
Row(Member number='2730', Date=datetime.date(2015, 6, 15), items='chicken,
```

```
abrasive cleaner')
Row(Member_number='3165', Date=datetime.date(2015, 6, 15), items='other
vegetables, sausage, whole milk, butter milk, packaged fruit/vegetables')
Row(Member_number='3394', Date=datetime.date(2015, 6, 15), items='pastry,
grapes')
Row(Member_number='3828', Date=datetime.date(2015, 6, 15), items='yogurt, canned
fish, pasta')
Row(Member_number='3948', Date=datetime.date(2015, 6, 15), items='ham,
rolls/buns, whole milk, rum, berries, cleaner')
Row(Member_number='4177', Date=datetime.date(2015, 6, 15), items='bottled beer,
canned beer')
Row(Member number='4223', Date=datetime.date(2015, 6, 15), items='liver loaf,
white bread, herbs, pastry')
Row(Member number='4468', Date=datetime.date(2015, 6, 15), items='pork, brown
Row(Member_number='4501', Date=datetime.date(2015, 6, 15), items='other
vegetables, tropical fruit, pork, soda')
Row(Member number='4508', Date=datetime.date(2015, 6, 15), items='soda, candy')
Row(Member_number='4515', Date=datetime.date(2015, 6, 15), items='soda, canned
beer, other vegetables, whole milk')
Row(Member_number='4721', Date=datetime.date(2015, 6, 15), items='sausage,
canned beer, rum, spices')
Row(Member_number='4826', Date=datetime.date(2015, 6, 15), items='red/blush
wine, other vegetables, rolls/buns')
Row(Member_number='1184', Date=datetime.date(2015, 6, 16), items='root
vegetables, sweet spreads')
Row(Member number='1363', Date=datetime.date(2015, 6, 16), items='whole milk,
pastry, butter')
Row(Member_number='1876', Date=datetime.date(2015, 6, 16), items='tropical
fruit, frozen meals')
Row(Member_number='2253', Date=datetime.date(2015, 6, 16), items='bottled water,
rolls/buns')
Row(Member_number='2271', Date=datetime.date(2015, 6, 16), items='frankfurter,
whole milk, instant coffee, bottled water')
Row(Member number='2321', Date=datetime.date(2015, 6, 16), items='tropical
fruit, bottled beer, domestic eggs, rolls/buns, long life bakery product, other
vegetables, skin care')
Row(Member_number='2667', Date=datetime.date(2015, 6, 16), items='frankfurter,
fruit/vegetable juice, shopping bags')
Row(Member_number='2682', Date=datetime.date(2015, 6, 16), items='whole milk,
soda')
Row(Member_number='2948', Date=datetime.date(2015, 6, 16), items='frankfurter,
Row(Member_number='3025', Date=datetime.date(2015, 6, 16), items='misc.
beverages, tea')
Row(Member_number='3281', Date=datetime.date(2015, 6, 16), items='sausage,
frozen potato products')
Row(Member number='3456', Date=datetime.date(2015, 6, 16), items='root
```

```
vegetables, whole milk')
Row(Member_number='3542', Date=datetime.date(2015, 6, 16), items='whole milk,
beef')
Row(Member_number='3552', Date=datetime.date(2015, 6, 16), items='rolls/buns,
canned beer, tropical fruit, chewing gum, margarine')
Row(Member_number='3703', Date=datetime.date(2015, 6, 16), items='citrus fruit,
soda, white bread')
Row(Member_number='3906', Date=datetime.date(2015, 6, 16), items='pip fruit,
pasta')
Row(Member_number='4233', Date=datetime.date(2015, 6, 16), items='whole milk,
coffee')
Row(Member_number='4267', Date=datetime.date(2015, 6, 16), items='ham, cream
cheese ')
Row(Member_number='4619', Date=datetime.date(2015, 6, 16), items='chicken, ice
Row(Member_number='4757', Date=datetime.date(2015, 6, 16), items='misc.
beverages, pip fruit')
Row(Member_number='1529', Date=datetime.date(2015, 6, 17), items='frankfurter,
soda')
Row(Member number='2165', Date=datetime.date(2015, 6, 17), items='soda, pastry')
Row(Member_number='2444', Date=datetime.date(2015, 6, 17), items='sausage, curd,
fruit/vegetable juice')
Row(Member_number='2798', Date=datetime.date(2015, 6, 17), items='chicken,
bottled beer')
Row(Member_number='2799', Date=datetime.date(2015, 6, 17), items='butter, baking
powder, brown bread')
Row(Member number='2937', Date=datetime.date(2015, 6, 17), items='photo/film,
chewing gum')
Row(Member number='3495', Date=datetime.date(2015, 6, 17), items='beef, candy')
Row(Member_number='3571', Date=datetime.date(2015, 6, 17), items='rolls/buns,
hygiene articles')
Row(Member_number='3582', Date=datetime.date(2015, 6, 17), items='cream cheese ,
fruit/vegetable juice, whole milk, shopping bags')
Row(Member_number='3661', Date=datetime.date(2015, 6, 17), items='whole milk,
butter')
Row(Member_number='3783', Date=datetime.date(2015, 6, 17), items='finished
products, cream cheese ')
Row(Member_number='3971', Date=datetime.date(2015, 6, 17), items='tropical
fruit, sausage, hamburger meat, zwieback, specialty cheese, domestic eggs')
Row(Member_number='3987', Date=datetime.date(2015, 6, 17), items='citrus fruit,
pastry, rolls/buns')
Row(Member_number='4217', Date=datetime.date(2015, 6, 17), items='salt, soda,
rolls/buns')
Row(Member_number='4266', Date=datetime.date(2015, 6, 17), items='soda, berries,
root vegetables, bottled beer')
Row(Member_number='4441', Date=datetime.date(2015, 6, 17), items='packaged
fruit/vegetables, dishes')
Row(Member_number='4452', Date=datetime.date(2015, 6, 17), items='pastry, pork')
```

```
Row(Member number='4852', Date=datetime.date(2015, 6, 17), items='whole milk,
pastry')
Row(Member number='1046', Date=datetime.date(2015, 6, 18), items='whole milk,
pastry')
Row(Member number='1491', Date=datetime.date(2015, 6, 18), items='frankfurter,
citrus fruit')
Row(Member number='1605', Date=datetime.date(2015, 6, 18), items='yogurt, citrus
fruit')
Row(Member number='1711', Date=datetime.date(2015, 6, 18), items='frankfurter,
whole milk, hamburger meat, white bread')
Row(Member number='1837', Date=datetime.date(2015, 6, 18), items='bottled beer,
domestic eggs')
Row(Member_number='2039', Date=datetime.date(2015, 6, 18), items='bottled beer,
oil')
Row(Member_number='2073', Date=datetime.date(2015, 6, 18), items='frankfurter,
domestic eggs')
Row(Member_number='2170', Date=datetime.date(2015, 6, 18), items='canned beer,
ham')
Row(Member_number='2261', Date=datetime.date(2015, 6, 18), items='sausage,
packaged fruit/vegetables')
Row(Member_number='2492', Date=datetime.date(2015, 6, 18), items='other
vegetables, root vegetables')
Row(Member_number='3113', Date=datetime.date(2015, 6, 18), items='brown bread,
tropical fruit, berries')
Row(Member_number='3275', Date=datetime.date(2015, 6, 18), items='frankfurter,
other vegetables, sugar')
Row(Member number='3620', Date=datetime.date(2015, 6, 18), items='rolls/buns,
sausage, tropical fruit, soda, yogurt, onions, flour, specialty chocolate,
whipped/sour cream')
Row(Member_number='3855', Date=datetime.date(2015, 6, 18), items='curd, domestic
eggs')
Row(Member_number='3987', Date=datetime.date(2015, 6, 18), items='sausage, pip
fruit')
Row(Member_number='4152', Date=datetime.date(2015, 6, 18), items='soda, sugar')
Row(Member number='4182', Date=datetime.date(2015, 6, 18), items='citrus fruit,
specialty bar')
Row(Member number='4507', Date=datetime.date(2015, 6, 18), items='citrus fruit,
pastry, candy, softener')
Row(Member_number='4576', Date=datetime.date(2015, 6, 18), items='meat, grapes')
Row(Member_number='4807', Date=datetime.date(2015, 6, 18), items='butter,
coffee')
Row(Member number='1212', Date=datetime.date(2015, 6, 19), items='tropical
fruit, cat food')
Row(Member_number='1216', Date=datetime.date(2015, 6, 19), items='canned beer,
brown bread')
Row(Member_number='1326', Date=datetime.date(2015, 6, 19), items='packaged
fruit/vegetables, chewing gum, ham, condensed milk, soda')
Row(Member_number='1420', Date=datetime.date(2015, 6, 19), items='canned beer,
```

```
hygiene articles')
Row(Member_number='1564', Date=datetime.date(2015, 6, 19), items='tropical
fruit, yogurt')
Row(Member_number='1646', Date=datetime.date(2015, 6, 19), items='chewing gum,
ham')
Row(Member_number='1829', Date=datetime.date(2015, 6, 19), items='pork, male
cosmetics')
Row(Member_number='2083', Date=datetime.date(2015, 6, 19), items='sausage, other
vegetables')
Row(Member_number='2162', Date=datetime.date(2015, 6, 19), items='tropical
fruit, cat food, pot plants, curd, soft cheese')
Row(Member_number='2171', Date=datetime.date(2015, 6, 19), items='frankfurter,
meat, roll products , pip fruit')
Row(Member_number='2286', Date=datetime.date(2015, 6, 19), items='canned beer,
napkins')
Row(Member_number='2440', Date=datetime.date(2015, 6, 19), items='meat, bottled
beer, liquor, waffles')
Row(Member number='2560', Date=datetime.date(2015, 6, 19), items='cocoa drinks,
bottled water, sweet spreads')
Row(Member number='2694', Date=datetime.date(2015, 6, 19), items='sausage,
bottled beer, root vegetables')
Row(Member_number='2816', Date=datetime.date(2015, 6, 19), items='pastry, canned
beer, mustard, yogurt')
Row(Member_number='2880', Date=datetime.date(2015, 6, 19), items='pork, bottled
beer, whole milk, margarine')
Row(Member number='2948', Date=datetime.date(2015, 6, 19), items='organic
sausage, other vegetables, hard cheese, bottled water')
Row(Member number='3068', Date=datetime.date(2015, 6, 19), items='other
vegetables, yogurt')
Row(Member_number='3144', Date=datetime.date(2015, 6, 19), items='pork, pet
care, margarine')
Row(Member_number='3248', Date=datetime.date(2015, 6, 19), items='citrus fruit,
pork')
Row(Member_number='3411', Date=datetime.date(2015, 6, 19), items='berries,
margarine')
Row(Member_number='3635', Date=datetime.date(2015, 6, 19), items='finished
products, newspapers')
Row(Member_number='3905', Date=datetime.date(2015, 6, 19), items='berries,
frozen meals, shopping bags')
Row(Member_number='3946', Date=datetime.date(2015, 6, 19), items='butter milk,
berries, citrus fruit, napkins')
Row(Member_number='3974', Date=datetime.date(2015, 6, 19), items='sausage,
curd')
Row(Member number='4103', Date=datetime.date(2015, 6, 19), items='whole milk,
red/blush wine, newspapers')
Row(Member number='4552', Date=datetime.date(2015, 6, 19), items='pork, soda,
yogurt')
Row(Member number='4711', Date=datetime.date(2015, 6, 19), items='pastry, whole
```

```
milk')
Row(Member_number='4989', Date=datetime.date(2015, 6, 19), items='chocolate,
mustard, white bread')
Row(Member_number='1253', Date=datetime.date(2015, 6, 20), items='sausage,
processed cheese, baking powder, specialty cheese')
Row(Member_number='1364', Date=datetime.date(2015, 6, 20), items='root
vegetables, ice cream')
Row(Member_number='1416', Date=datetime.date(2015, 6, 20), items='other
vegetables')
Row(Member_number='1532', Date=datetime.date(2015, 6, 20), items='whole milk,
citrus fruit, napkins')
Row(Member_number='1595', Date=datetime.date(2015, 6, 20), items='finished
products, whole milk')
Row(Member_number='1848', Date=datetime.date(2015, 6, 20), items='frankfurter,
fruit/vegetable juice')
Row(Member number='2128', Date=datetime.date(2015, 6, 20), items='ham, citrus
fruit')
Row(Member_number='2146', Date=datetime.date(2015, 6, 20), items='berries,
newspapers')
Row(Member number='2227', Date=datetime.date(2015, 6, 20), items='semi-finished
bread, whole milk, mustard')
Row(Member number='2443', Date=datetime.date(2015, 6, 20), items='sausage, pip
fruit, soda, curd, waffles')
Row(Member_number='2484', Date=datetime.date(2015, 6, 20), items='pork, domestic
eggs, UHT-milk, rolls/buns')
Row(Member_number='2937', Date=datetime.date(2015, 6, 20), items='dessert, whole
milk')
Row(Member_number='2943', Date=datetime.date(2015, 6, 20), items='sausage, cocoa
Row(Member_number='3253', Date=datetime.date(2015, 6, 20), items='sweet spreads,
frozen fish')
Row(Member_number='3574', Date=datetime.date(2015, 6, 20), items='pork, white
wine')
Row(Member_number='3960', Date=datetime.date(2015, 6, 20), items='frankfurter,
long life bakery product')
Row(Member_number='4495', Date=datetime.date(2015, 6, 20), items='coffee, sliced
cheese, whipped/sour cream, butter milk')
Row(Member_number='4877', Date=datetime.date(2015, 6, 20), items='root
vegetables, sausage, brown bread, UHT-milk, sliced cheese, frozen vegetables,
white bread')
Row(Member_number='4992', Date=datetime.date(2015, 6, 20), items='whole milk,
other vegetables, pip fruit, sparkling wine')
Row(Member_number='1363', Date=datetime.date(2015, 6, 21), items='dish cleaner,
whole milk')
Row(Member_number='1385', Date=datetime.date(2015, 6, 21), items='whipped/sour
cream, curd')
Row(Member_number='1488', Date=datetime.date(2015, 6, 21), items='beef, grapes')
Row(Member_number='1518', Date=datetime.date(2015, 6, 21), items='tropical
```

```
fruit, yogurt')
Row(Member_number='1961', Date=datetime.date(2015, 6, 21), items='other
vegetables, dish cleaner')
Row(Member_number='2082', Date=datetime.date(2015, 6, 21), items='UHT-milk,
pastry, bottled water')
Row(Member_number='2364', Date=datetime.date(2015, 6, 21), items='whole milk,
root vegetables, rolls/buns, yogurt, onions, coffee, napkins, UHT-milk')
Row(Member_number='2365', Date=datetime.date(2015, 6, 21), items='sausage, pork,
pip fruit, other vegetables, hard cheese')
Row(Member_number='2394', Date=datetime.date(2015, 6, 21), items='canned beer,
newspapers')
Row(Member number='2408', Date=datetime.date(2015, 6, 21), items='ham,
rolls/buns, tropical fruit')
Row(Member number='2433', Date=datetime.date(2015, 6, 21), items='specialty
cheese, other vegetables')
Row(Member_number='2553', Date=datetime.date(2015, 6, 21), items='other
vegetables, pip fruit, specialty bar')
Row(Member number='2712', Date=datetime.date(2015, 6, 21), items='root
vegetables, grapes, whole milk')
Row(Member number='2800', Date=datetime.date(2015, 6, 21), items='sugar, brown
Row(Member number='2960', Date=datetime.date(2015, 6, 21), items='citrus fruit,
salty snack')
Row(Member number='3050', Date=datetime.date(2015, 6, 21), items='frankfurter,
bottled water, pickled vegetables')
Row(Member_number='3272', Date=datetime.date(2015, 6, 21), items='dessert,
yogurt')
Row(Member_number='3361', Date=datetime.date(2015, 6, 21), items='finished
products, flower (seeds)')
Row(Member_number='3649', Date=datetime.date(2015, 6, 21), items='dishes,
yogurt')
Row(Member_number='3659', Date=datetime.date(2015, 6, 21), items='citrus fruit,
brown bread')
Row(Member_number='3804', Date=datetime.date(2015, 6, 21), items='beef, butter
milk')
Row(Member_number='4001', Date=datetime.date(2015, 6, 21), items='tropical
fruit, soda, margarine')
Row(Member_number='4371', Date=datetime.date(2015, 6, 21), items='finished
products, bottled beer')
Row(Member_number='4651', Date=datetime.date(2015, 6, 21), items='photo/film,
citrus fruit, chewing gum')
Row(Member number='4753', Date=datetime.date(2015, 6, 21), items='whole milk,
citrus fruit, long life bakery product, salty snack, chocolate')
Row(Member_number='1307', Date=datetime.date(2015, 6, 22), items='meat, sausage,
baking powder, pastry')
Row(Member_number='1507', Date=datetime.date(2015, 6, 22), items='chicken,
frozen fish, sugar')
Row(Member number='1835', Date=datetime.date(2015, 6, 22), items='rolls/buns,
```

```
jam, cake bar')
Row(Member_number='2294', Date=datetime.date(2015, 6, 22), items='ham, tropical
fruit')
Row(Member_number='2391', Date=datetime.date(2015, 6, 22), items='citrus fruit,
hamburger meat')
Row(Member_number='2707', Date=datetime.date(2015, 6, 22), items='bottled water,
newspapers')
Row(Member_number='2749', Date=datetime.date(2015, 6, 22), items='frankfurter,
citrus fruit, specialty chocolate')
Row(Member_number='2830', Date=datetime.date(2015, 6, 22), items='citrus fruit,
sausage, rolls/buns, frozen potato products')
Row(Member_number='3011', Date=datetime.date(2015, 6, 22), items='finished
products, rolls/buns')
Row(Member_number='3154', Date=datetime.date(2015, 6, 22), items='finished
products, pip fruit')
Row(Member_number='3282', Date=datetime.date(2015, 6, 22), items='frankfurter,
soda')
Row(Member_number='3342', Date=datetime.date(2015, 6, 22), items='sausage, long
life bakery product')
Row(Member number='3385', Date=datetime.date(2015, 6, 22), items='flower
soil/fertilizer, rolls/buns, yogurt, ice cream, whipped/sour cream')
Row(Member_number='3783', Date=datetime.date(2015, 6, 22), items='sausage,
honey, beverages, soda, frozen dessert, whipped/sour cream')
Row(Member_number='3918', Date=datetime.date(2015, 6, 22), items='whipped/sour
cream, beef')
Row(Member_number='4330', Date=datetime.date(2015, 6, 22), items='finished
products, whole milk, baking powder')
Row(Member number='4592', Date=datetime.date(2015, 6, 22), items='whole milk,
chocolate')
Row(Member_number='4742', Date=datetime.date(2015, 6, 22), items='white wine,
pastry, hard cheese, coffee, hygiene articles')
Row(Member_number='1298', Date=datetime.date(2015, 6, 23), items='chicken, soda,
dishes')
Row(Member_number='1306', Date=datetime.date(2015, 6, 23), items='whole milk,
pork, rolls/buns, yogurt')
Row(Member_number='1489', Date=datetime.date(2015, 6, 23), items='rolls/buns,
tropical fruit, soda, dessert')
Row(Member_number='1578', Date=datetime.date(2015, 6, 23), items='packaged
fruit/vegetables, bottled beer')
Row(Member_number='1641', Date=datetime.date(2015, 6, 23), items='UHT-milk,
whipped/sour cream')
Row(Member_number='1733', Date=datetime.date(2015, 6, 23), items='pip fruit,
canned fish, organic sausage, pastry')
Row(Member number='1967', Date=datetime.date(2015, 6, 23), items='whole milk,
seasonal products')
Row(Member_number='2014', Date=datetime.date(2015, 6, 23), items='ice cream,
yogurt, oil')
Row(Member_number='2181', Date=datetime.date(2015, 6, 23), items='male
```

```
cosmetics, roll products , pastry')
Row(Member_number='2251', Date=datetime.date(2015, 6, 23), items='chicken, cream
cheese, citrus fruit, pet care, napkins, condensed milk, specialty chocolate')
Row(Member_number='2374', Date=datetime.date(2015, 6, 23), items='brandy, ham,
root vegetables, whole milk')
Row(Member_number='2397', Date=datetime.date(2015, 6, 23), items='organic
sausage, pip fruit, newspapers, whipped/sour cream')
Row(Member_number='3096', Date=datetime.date(2015, 6, 23), items='misc.
beverages, yogurt, oil')
Row(Member_number='3198', Date=datetime.date(2015, 6, 23), items='hamburger
meat, pip fruit, dish cleaner')
Row(Member number='3597', Date=datetime.date(2015, 6, 23), items='pork, whole
milk')
Row(Member_number='4282', Date=datetime.date(2015, 6, 23), items='chicken, other
vegetables')
Row(Member_number='4305', Date=datetime.date(2015, 6, 23), items='herbs, whole
milk, other vegetables, shopping bags')
Row(Member number='4313', Date=datetime.date(2015, 6, 23), items='citrus fruit,
soda')
Row(Member number='4470', Date=datetime.date(2015, 6, 23), items='frozen meals,
other vegetables')
Row(Member_number='4594', Date=datetime.date(2015, 6, 23), items='meat, pork,
butter milk, cat food')
Row(Member_number='4848', Date=datetime.date(2015, 6, 23), items='pork,
mustard')
Row(Member_number='1046', Date=datetime.date(2015, 6, 24), items='pork, bottled
water')
Row(Member_number='1074', Date=datetime.date(2015, 6, 24), items='misc.
beverages, instant coffee')
Row(Member number='1460', Date=datetime.date(2015, 6, 24), items='hamburger
meat, tropical fruit, bottled water, whipped/sour cream, flour')
Row(Member_number='1474', Date=datetime.date(2015, 6, 24), items='white bread,
root vegetables')
Row(Member_number='1679', Date=datetime.date(2015, 6, 24), items='other
vegetables, frozen vegetables, rolls/buns')
Row(Member_number='2115', Date=datetime.date(2015, 6, 24), items='berries,
rolls/buns')
Row(Member_number='2202', Date=datetime.date(2015, 6, 24), items='frankfurter,
root vegetables')
Row(Member_number='2293', Date=datetime.date(2015, 6, 24), items='rolls/buns,
long life bakery product, root vegetables')
Row(Member_number='2363', Date=datetime.date(2015, 6, 24), items='beverages,
candles')
Row(Member_number='2787', Date=datetime.date(2015, 6, 24), items='soda,
rolls/buns')
Row(Member number='3208', Date=datetime.date(2015, 6, 24), items='root
vegetables, pastry')
Row(Member_number='3246', Date=datetime.date(2015, 6, 24), items='coffee, root
```

```
vegetables')
Row(Member_number='3305', Date=datetime.date(2015, 6, 24), items='shopping bags,
chocolate')
Row(Member_number='3612', Date=datetime.date(2015, 6, 24), items='white bread,
flour')
Row(Member_number='3757', Date=datetime.date(2015, 6, 24), items='whole milk,
newspapers')
Row(Member_number='3811', Date=datetime.date(2015, 6, 24), items='canned beer,
other vegetables')
Row(Member_number='3812', Date=datetime.date(2015, 6, 24), items='beef,
berries')
Row(Member number='3907', Date=datetime.date(2015, 6, 24), items='ham,
whipped/sour cream')
Row(Member number='3922', Date=datetime.date(2015, 6, 24), items='whole milk,
Row(Member_number='4259', Date=datetime.date(2015, 6, 24), items='brown bread,
soda, butter, shopping bags')
Row(Member number='4338', Date=datetime.date(2015, 6, 24), items='whole milk,
rolls/buns, other vegetables, white bread')
Row(Member_number='1122', Date=datetime.date(2015, 6, 25), items='root
vegetables, frozen vegetables')
Row(Member_number='1372', Date=datetime.date(2015, 6, 25), items='frozen fish,
whole milk, tropical fruit, butter, coffee')
Row(Member_number='1494', Date=datetime.date(2015, 6, 25), items='frozen fish,
whole milk')
Row(Member_number='1649', Date=datetime.date(2015, 6, 25), items='tropical
fruit, white wine, bottled beer')
Row(Member_number='1682', Date=datetime.date(2015, 6, 25), items='pip fruit,
whipped/sour cream, shopping bags, domestic eggs, soda, cake bar, frozen meals')
Row(Member_number='1819', Date=datetime.date(2015, 6, 25), items='pip fruit,
soda, grapes')
Row(Member_number='1849', Date=datetime.date(2015, 6, 25), items='pork, soda')
Row(Member_number='2125', Date=datetime.date(2015, 6, 25), items='whipped/sour
cream, frozen meals')
Row(Member number='2142', Date=datetime.date(2015, 6, 25), items='pip fruit,
liver loaf, root vegetables, rolls/buns, mayonnaise, curd, hard cheese,
chocolate')
Row(Member_number='2447', Date=datetime.date(2015, 6, 25), items='chicken,
yogurt')
Row(Member_number='2590', Date=datetime.date(2015, 6, 25), items='packaged
fruit/vegetables, dog food')
Row(Member number='2614', Date=datetime.date(2015, 6, 25), items='whole milk,
rolls/buns')
Row(Member_number='2867', Date=datetime.date(2015, 6, 25), items='butter,
shopping bags')
Row(Member number='2882', Date=datetime.date(2015, 6, 25), items='citrus fruit,
sausage, domestic eggs, dishes')
Row(Member number='2938', Date=datetime.date(2015, 6, 25), items='liquor
```

```
(appetizer), tropical fruit')
Row(Member_number='2982', Date=datetime.date(2015, 6, 25), items='citrus fruit,
frankfurter, yogurt, ice cream')
Row(Member_number='3829', Date=datetime.date(2015, 6, 25), items='tropical
fruit')
Row(Member_number='3879', Date=datetime.date(2015, 6, 25), items='tropical
fruit, soda, canned vegetables')
Row(Member_number='4230', Date=datetime.date(2015, 6, 25), items='seasonal
products, white wine')
Row(Member_number='4395', Date=datetime.date(2015, 6, 25), items='ham, whole
milk, soda')
Row(Member number='4669', Date=datetime.date(2015, 6, 25), items='whole milk,
whipped/sour cream')
Row(Member_number='1140', Date=datetime.date(2015, 6, 26), items='pip fruit,
other vegetables, cling film/bags')
Row(Member_number='1395', Date=datetime.date(2015, 6, 26), items='canned beer,
tropical fruit, root vegetables, other vegetables')
Row(Member_number='1407', Date=datetime.date(2015, 6, 26), items='beef, citrus
fruit, pastry')
Row(Member_number='1465', Date=datetime.date(2015, 6, 26), items='meat, sausage,
other vegetables, shopping bags')
Row(Member_number='1698', Date=datetime.date(2015, 6, 26), items='other
vegetables, citrus fruit, pork, shopping bags')
Row(Member_number='2413', Date=datetime.date(2015, 6, 26), items='bottled water,
rolls/buns, domestic eggs')
Row(Member_number='2427', Date=datetime.date(2015, 6, 26), items='pork, citrus
fruit, UHT-milk, dessert')
Row(Member_number='2645', Date=datetime.date(2015, 6, 26), items='syrup,
newspapers, processed cheese, rolls/buns')
Row(Member_number='3461', Date=datetime.date(2015, 6, 26), items='yogurt, soda')
Row(Member_number='3707', Date=datetime.date(2015, 6, 26), items='sausage,
domestic eggs')
Row(Member_number='3995', Date=datetime.date(2015, 6, 26), items='other
vegetables, soda, pip fruit, brown bread')
Row(Member number='4473', Date=datetime.date(2015, 6, 26), items='hamburger
meat, tropical fruit, cat food, whole milk, artif. sweetener, packaged
fruit/vegetables')
Row(Member_number='1102', Date=datetime.date(2015, 6, 27), items='other
vegetables, white bread, detergent')
Row(Member_number='1245', Date=datetime.date(2015, 6, 27), items='soda, canned
fruit, processed cheese, shopping bags')
Row(Member number='1483', Date=datetime.date(2015, 6, 27), items='rolls/buns,
liquor (appetizer)')
Row(Member_number='1744', Date=datetime.date(2015, 6, 27), items='canned beer,
soda')
Row(Member_number='1848', Date=datetime.date(2015, 6, 27), items='sauces, frozen
vegetables')
Row(Member number='1932', Date=datetime.date(2015, 6, 27), items='chocolate,
```

```
tropical fruit')
Row(Member_number='2203', Date=datetime.date(2015, 6, 27), items='prosecco,
onions')
Row(Member_number='2260', Date=datetime.date(2015, 6, 27), items='frankfurter,
soda')
Row(Member_number='2391', Date=datetime.date(2015, 6, 27), items='sausage,
yogurt')
Row(Member_number='2601', Date=datetime.date(2015, 6, 27), items='other
vegetables, ready soups, baking powder')
Row(Member_number='2645', Date=datetime.date(2015, 6, 27), items='soda,
rolls/buns')
Row(Member number='2978', Date=datetime.date(2015, 6, 27), items='whole milk,
hygiene articles')
Row(Member number='3018', Date=datetime.date(2015, 6, 27), items='rolls/buns,
root vegetables')
Row(Member number='3296', Date=datetime.date(2015, 6, 27), items='pickled
vegetables, other vegetables')
Row(Member_number='3495', Date=datetime.date(2015, 6, 27), items='liquor
(appetizer), hard cheese, yogurt')
Row(Member_number='3564', Date=datetime.date(2015, 6, 27), items='newspapers,
grapes, onions, coffee')
Row(Member_number='3763', Date=datetime.date(2015, 6, 27), items='beef, whole
milk, frozen vegetables')
Row(Member_number='3815', Date=datetime.date(2015, 6, 27), items='pastry,
rolls/buns')
Row(Member number='3844', Date=datetime.date(2015, 6, 27), items='pork, other
vegetables')
Row(Member_number='4397', Date=datetime.date(2015, 6, 27), items='whipped/sour
cream, onions, other vegetables, yogurt, rolls/buns')
Row(Member_number='4563', Date=datetime.date(2015, 6, 27), items='pip fruit,
other vegetables')
Row(Member_number='4662', Date=datetime.date(2015, 6, 27), items='canned beer,
pip fruit, rolls/buns, brown bread, soft cheese, shopping bags')
Row(Member_number='4700', Date=datetime.date(2015, 6, 27), items='coffee, whole
milk')
Row(Member_number='1023', Date=datetime.date(2015, 6, 28), items='white bread,
bottled beer, yogurt, berries')
Row(Member_number='1231', Date=datetime.date(2015, 6, 28), items='grapes,
detergent')
Row(Member_number='1370', Date=datetime.date(2015, 6, 28), items='white bread,
whole milk, newspapers, rolls/buns, canned beer')
Row(Member number='1692', Date=datetime.date(2015, 6, 28), items='whole milk,
soda, other vegetables')
Row(Member_number='2050', Date=datetime.date(2015, 6, 28), items='whipped/sour
cream, other vegetables')
Row(Member_number='2070', Date=datetime.date(2015, 6, 28), items='sausage,
spread cheese, bottled water')
Row(Member_number='2682', Date=datetime.date(2015, 6, 28), items='sausage,
```

```
bottled beer')
Row(Member_number='3054', Date=datetime.date(2015, 6, 28), items='meat, pip
fruit, yogurt')
Row(Member_number='3094', Date=datetime.date(2015, 6, 28), items='frankfurter,
bottled beer')
Row(Member_number='3119', Date=datetime.date(2015, 6, 28), items='hamburger
meat, grapes, candy')
Row(Member_number='3237', Date=datetime.date(2015, 6, 28), items='UHT-milk,
butter milk, frozen vegetables, other vegetables, candy, fruit/vegetable juice')
Row(Member_number='3252', Date=datetime.date(2015, 6, 28), items='pip fruit,
brown bread')
Row(Member_number='3307', Date=datetime.date(2015, 6, 28), items='other
vegetables, bottled water, baking powder')
Row(Member_number='3361', Date=datetime.date(2015, 6, 28), items='detergent,
other vegetables, oil, beverages, rolls/buns, specialty bar')
Row(Member_number='3365', Date=datetime.date(2015, 6, 28), items='bottled water,
other vegetables')
Row(Member_number='3385', Date=datetime.date(2015, 6, 28), items='frankfurter,
other vegetables')
Row(Member number='3476', Date=datetime.date(2015, 6, 28), items='whipped/sour
cream, white bread')
Row(Member number='3663', Date=datetime.date(2015, 6, 28), items='whole milk,
white bread')
Row(Member_number='3819', Date=datetime.date(2015, 6, 28), items='chicken,
fruit/vegetable juice')
Row(Member number='4184', Date=datetime.date(2015, 6, 28), items='pastry, soda,
semi-finished bread, white bread')
Row(Member_number='4240', Date=datetime.date(2015, 6, 28), items='other
vegetables, frozen dessert, shopping bags')
Row(Member_number='4257', Date=datetime.date(2015, 6, 28), items='ice cream,
herbs')
Row(Member_number='4428', Date=datetime.date(2015, 6, 28), items='sausage,
sugar')
Row(Member_number='4937', Date=datetime.date(2015, 6, 28), items='shopping bags,
other vegetables, coffee')
Row(Member_number='1183', Date=datetime.date(2015, 6, 29), items='root
vegetables, ham, butter, brown bread, pastry, spread cheese')
Row(Member_number='1311', Date=datetime.date(2015, 6, 29), items='rolls/buns,
red/blush wine, canned beer')
Row(Member_number='1851', Date=datetime.date(2015, 6, 29), items='berries, whole
milk, other vegetables')
Row(Member number='2261', Date=datetime.date(2015, 6, 29), items='sausage,
packaged fruit/vegetables, misc. beverages')
Row(Member_number='2307', Date=datetime.date(2015, 6, 29), items='canned beer,
berries')
Row(Member number='2429', Date=datetime.date(2015, 6, 29), items='pork, pip
fruit, whole milk, shopping bags')
Row(Member number='2431', Date=datetime.date(2015, 6, 29), items='oil, yogurt')
```

```
Row(Member_number='2496', Date=datetime.date(2015, 6, 29), items='chicken,
shopping bags')
Row(Member_number='2990', Date=datetime.date(2015, 6, 29), items='frankfurter,
pastry, canned beer')
Row(Member number='3109', Date=datetime.date(2015, 6, 29), items='cat food,
soda')
Row(Member number='3206', Date=datetime.date(2015, 6, 29), items='shopping bags,
curd')
Row(Member number='3221', Date=datetime.date(2015, 6, 29), items='pastry, soda')
Row(Member_number='3317', Date=datetime.date(2015, 6, 29), items='pork,
dessert')
Row(Member_number='3364', Date=datetime.date(2015, 6, 29), items='sausage, salad
dressing')
Row(Member_number='3429', Date=datetime.date(2015, 6, 29), items='pork, root
vegetables')
Row(Member_number='4027', Date=datetime.date(2015, 6, 29), items='whipped/sour
cream, pip fruit')
Row(Member number='4096', Date=datetime.date(2015, 6, 29), items='hamburger
meat, butter milk, seasonal products')
Row(Member number='4511', Date=datetime.date(2015, 6, 29), items='beef, pork')
Row(Member_number='4796', Date=datetime.date(2015, 6, 29), items='chicken,
beef')
Row(Member_number='4852', Date=datetime.date(2015, 6, 29), items='frankfurter,
light bulbs, rolls/buns, pasta')
Row(Member_number='4939', Date=datetime.date(2015, 6, 29), items='bottled beer,
soda, hygiene articles, chicken, whole milk, canned beer, curd')
Row(Member_number='1175', Date=datetime.date(2015, 6, 30), items='bottled water,
yogurt, beef, berries, chocolate, butter')
Row(Member_number='1376', Date=datetime.date(2015, 6, 30), items='sausage, soda,
cream cheese ')
Row(Member_number='1649', Date=datetime.date(2015, 6, 30), items='bottled water,
berries')
Row(Member_number='1670', Date=datetime.date(2015, 6, 30), items='chicken, pork,
newspapers')
Row(Member number='1864', Date=datetime.date(2015, 6, 30), items='pip fruit,
yogurt')
Row(Member number='2184', Date=datetime.date(2015, 6, 30), items='popcorn, pork,
margarine, beef, butter')
Row(Member_number='2311', Date=datetime.date(2015, 6, 30), items='chocolate,
oil, domestic eggs, fruit/vegetable juice, frozen vegetables, rolls/buns')
Row(Member_number='2569', Date=datetime.date(2015, 6, 30), items='white wine,
beverages')
Row(Member_number='2919', Date=datetime.date(2015, 6, 30), items='pip fruit,
candles')
Row(Member_number='3276', Date=datetime.date(2015, 6, 30), items='root
vegetables, specialty chocolate, frozen vegetables, canned beer, frozen fish')
Row(Member_number='3926', Date=datetime.date(2015, 6, 30), items='whipped/sour
cream, rolls/buns')
```

```
Row(Member_number='4215', Date=datetime.date(2015, 6, 30), items='specialty bar,
processed cheese, whole milk, misc. beverages')
Row(Member number='4455', Date=datetime.date(2015, 6, 30), items='turkey, whole
milk')
Row(Member number='4588', Date=datetime.date(2015, 6, 30), items='rolls/buns,
bottled beer')
Row(Member number='4959', Date=datetime.date(2015, 6, 30), items='other
vegetables, frozen vegetables')
Row(Member_number='1094', Date=datetime.date(2015, 7, 1), items='sausage,
tropical fruit, misc. beverages, root vegetables')
Row(Member number='1301', Date=datetime.date(2015, 7, 1), items='sausage, soda,
frozen vegetables')
Row(Member_number='1342', Date=datetime.date(2015, 7, 1), items='tropical fruit,
frozen vegetables, rice')
Row(Member_number='1585', Date=datetime.date(2015, 7, 1), items='other
vegetables, yogurt')
Row(Member_number='1943', Date=datetime.date(2015, 7, 1), items='hamburger meat,
canned beer, other vegetables, canned fruit')
Row(Member_number='2101', Date=datetime.date(2015, 7, 1), items='root
vegetables, domestic eggs, chocolate')
Row(Member_number='2193', Date=datetime.date(2015, 7, 1), items='pastry, liquor
(appetizer), sliced cheese')
Row(Member_number='2220', Date=datetime.date(2015, 7, 1), items='tropical fruit,
pastry')
Row(Member_number='2267', Date=datetime.date(2015, 7, 1), items='whole milk,
long life bakery product')
Row(Member_number='2380', Date=datetime.date(2015, 7, 1), items='sausage,
bottled beer')
Row(Member_number='2695', Date=datetime.date(2015, 7, 1), items='whole milk,
bottled beer')
Row(Member_number='2760', Date=datetime.date(2015, 7, 1), items='sausage, fish')
Row(Member_number='2775', Date=datetime.date(2015, 7, 1), items='tropical fruit,
chicken')
Row(Member_number='3316', Date=datetime.date(2015, 7, 1), items='cream cheese,
cleaner')
Row(Member_number='3363', Date=datetime.date(2015, 7, 1), items='rolls/buns,
Row(Member_number='4148', Date=datetime.date(2015, 7, 1), items='meat, whole
milk')
Row(Member_number='4149', Date=datetime.date(2015, 7, 1), items='citrus fruit,
other vegetables')
Row(Member number='4320', Date=datetime.date(2015, 7, 1), items='yogurt, candy,
canned beer, chocolate')
Row(Member number='4544', Date=datetime.date(2015, 7, 1), items='sugar, whole
milk, ketchup')
Row(Member_number='4911', Date=datetime.date(2015, 7, 1), items='pork, UHT-milk,
rolls/buns, cleaner, newspapers')
Row(Member_number='4987', Date=datetime.date(2015, 7, 1), items='condensed milk,
```

```
waffles, domestic eggs')
Row(Member_number='1173', Date=datetime.date(2015, 7, 2), items='bottled beer,
fruit/vegetable juice, rolls/buns')
Row(Member_number='1213', Date=datetime.date(2015, 7, 2), items='domestic eggs,
fruit/vegetable juice')
Row(Member_number='1326', Date=datetime.date(2015, 7, 2), items='cereals, frozen
vegetables')
Row(Member_number='1429', Date=datetime.date(2015, 7, 2), items='whole milk, pip
Row(Member_number='1663', Date=datetime.date(2015, 7, 2), items='rolls/buns,
onions, butter, whole milk')
Row(Member number='1922', Date=datetime.date(2015, 7, 2), items='sausage, pip
fruit')
Row(Member_number='2013', Date=datetime.date(2015, 7, 2), items='UHT-milk, other
vegetables')
Row(Member_number='2023', Date=datetime.date(2015, 7, 2), items='tropical fruit,
hard cheese')
Row(Member number='2353', Date=datetime.date(2015, 7, 2), items='canned beer,
bottled water')
Row(Member number='2502', Date=datetime.date(2015, 7, 2), items='chicken, citrus
fruit, whole milk, berries, instant coffee')
Row(Member_number='2950', Date=datetime.date(2015, 7, 2), items='frankfurter,
whole milk')
Row(Member_number='3416', Date=datetime.date(2015, 7, 2), items='tropical fruit,
canned beer')
Row(Member number='3508', Date=datetime.date(2015, 7, 2), items='seasonal
products, dishes, shopping bags')
Row(Member_number='3872', Date=datetime.date(2015, 7, 2), items='whole milk,
frozen vegetables')
Row(Member_number='3924', Date=datetime.date(2015, 7, 2), items='pork, cookware,
root vegetables, canned beer, whole milk, bottled water, oil')
Row(Member_number='4194', Date=datetime.date(2015, 7, 2), items='bottled water,
cream cheese , pip fruit, hygiene articles')
Row(Member_number='4559', Date=datetime.date(2015, 7, 2), items='ice cream,
whole milk')
Row(Member_number='1265', Date=datetime.date(2015, 7, 3), items='cream cheese,
pip fruit, citrus fruit, chicken, other vegetables, curd, specialty chocolate,
pastry')
Row(Member_number='1334', Date=datetime.date(2015, 7, 3), items='Instant food
products, bottled beer, butter')
Row(Member_number='1395', Date=datetime.date(2015, 7, 3), items='cream cheese ,
other vegetables')
Row(Member_number='1464', Date=datetime.date(2015, 7, 3), items='sausage,
pastry, soda')
Row(Member_number='1489', Date=datetime.date(2015, 7, 3), items='frozen
vegetables, dessert')
Row(Member_number='1706', Date=datetime.date(2015, 7, 3), items='coffee, bottled
water, chocolate')
```

```
Row(Member number='2043', Date=datetime.date(2015, 7, 3), items='bottled water,
rolls/buns')
Row(Member_number='2205', Date=datetime.date(2015, 7, 3), items='citrus fruit,
whole milk, rolls/buns, pastry, whipped/sour cream')
Row(Member number='2622', Date=datetime.date(2015, 7, 3), items='onions, pip
fruit')
Row(Member number='2707', Date=datetime.date(2015, 7, 3), items='meat, whole
milk, brown bread, shopping bags, waffles')
Row(Member number='3822', Date=datetime.date(2015, 7, 3), items='root
vegetables, bottled water, napkins, shopping bags, rice')
Row(Member number='3831', Date=datetime.date(2015, 7, 3), items='newspapers,
flour')
Row(Member_number='4137', Date=datetime.date(2015, 7, 3), items='citrus fruit,
hamburger meat, tea, root vegetables, sugar, shopping bags')
Row(Member_number='4347', Date=datetime.date(2015, 7, 3), items='pork, root
vegetables')
Row(Member_number='4512', Date=datetime.date(2015, 7, 3), items='frankfurter,
butter, red/blush wine')
Row(Member_number='1419', Date=datetime.date(2015, 7, 4), items='root
vegetables, hygiene articles, newspapers')
Row(Member_number='1539', Date=datetime.date(2015, 7, 4), items='frankfurter,
margarine')
Row(Member_number='1820', Date=datetime.date(2015, 7, 4), items='pork, ham')
Row(Member_number='2068', Date=datetime.date(2015, 7, 4), items='sausage,
rolls/buns')
Row(Member number='2082', Date=datetime.date(2015, 7, 4), items='frankfurter,
other vegetables')
Row(Member_number='2122', Date=datetime.date(2015, 7, 4), items='frozen dessert,
tropical fruit')
Row(Member number='2419', Date=datetime.date(2015, 7, 4), items='sausage, pip
fruit')
Row(Member_number='2676', Date=datetime.date(2015, 7, 4), items='liver loaf,
newspapers, white wine')
Row(Member_number='2777', Date=datetime.date(2015, 7, 4), items='whole milk')
Row(Member number='3050', Date=datetime.date(2015, 7, 4), items='yogurt, whole
milk')
Row(Member number='3473', Date=datetime.date(2015, 7, 4), items='whole milk,
liquor (appetizer)')
Row(Member_number='3474', Date=datetime.date(2015, 7, 4), items='tropical fruit,
Row(Member_number='3619', Date=datetime.date(2015, 7, 4), items='pork, dessert')
Row(Member_number='3830', Date=datetime.date(2015, 7, 4), items='pork, ice
Row(Member_number='3881', Date=datetime.date(2015, 7, 4), items='meat, canned
Row(Member_number='3884', Date=datetime.date(2015, 7, 4), items='citrus fruit,
rolls/buns')
Row(Member number='4189', Date=datetime.date(2015, 7, 4), items='rolls/buns,
```

```
soda, snack products, long life bakery product')
Row(Member_number='4212', Date=datetime.date(2015, 7, 4), items='chicken,
whipped/sour cream')
Row(Member_number='4308', Date=datetime.date(2015, 7, 4), items='chicken, soda,
shopping bags')
Row(Member_number='4498', Date=datetime.date(2015, 7, 4), items='pastry,
yogurt')
Row(Member_number='4593', Date=datetime.date(2015, 7, 4), items='other
vegetables, pickled vegetables, hard cheese')
Row(Member_number='4625', Date=datetime.date(2015, 7, 4), items='sausage, pasta,
bottled water')
Row(Member number='1098', Date=datetime.date(2015, 7, 5), items='canned beer,
napkins, rolls/buns')
Row(Member number='1275', Date=datetime.date(2015, 7, 5), items='root
vegetables, butter, dessert')
Row(Member_number='1827', Date=datetime.date(2015, 7, 5), items='sausage, spread
cheese, specialty bar, soda')
Row(Member number='2077', Date=datetime.date(2015, 7, 5), items='bottled water,
roll products , butter, coffee, rum')
Row(Member_number='2475', Date=datetime.date(2015, 7, 5), items='canned
vegetables, fish')
Row(Member_number='2537', Date=datetime.date(2015, 7, 5), items='sausage, other
vegetables, oil, candy')
Row(Member_number='2546', Date=datetime.date(2015, 7, 5), items='pet care,
mustard')
Row(Member number='2587', Date=datetime.date(2015, 7, 5), items='canned beer,
tropical fruit')
Row(Member_number='2723', Date=datetime.date(2015, 7, 5), items='white wine,
tropical fruit')
Row(Member_number='3034', Date=datetime.date(2015, 7, 5), items='condensed milk,
other vegetables')
Row(Member_number='3480', Date=datetime.date(2015, 7, 5), items='root
vegetables, misc. beverages, other vegetables')
Row(Member_number='3623', Date=datetime.date(2015, 7, 5), items='salty snack,
liquor')
Row(Member_number='3766', Date=datetime.date(2015, 7, 5), items='citrus fruit,
frankfurter, tropical fruit, napkins')
Row(Member_number='3810', Date=datetime.date(2015, 7, 5), items='grapes, other
vegetables')
Row(Member_number='4059', Date=datetime.date(2015, 7, 5), items='frozen meals,
sausage, flour, curd, whipped/sour cream')
Row(Member_number='4667', Date=datetime.date(2015, 7, 5), items='beef, other
vegetables')
Row(Member_number='4748', Date=datetime.date(2015, 7, 5), items='rolls/buns,
fruit/vegetable juice')
Row(Member number='4953', Date=datetime.date(2015, 7, 5), items='pip fruit,
whole milk, coffee, salty snack')
Row(Member number='1277', Date=datetime.date(2015, 7, 6), items='photo/film,
```

```
whole milk, yogurt, white bread, pot plants, dessert')
Row(Member_number='1334', Date=datetime.date(2015, 7, 6), items='chicken,
onions')
Row(Member_number='1785', Date=datetime.date(2015, 7, 6), items='sausage,
fruit/vegetable juice, whole milk, curd')
Row(Member_number='2068', Date=datetime.date(2015, 7, 6), items='frankfurter,
whole milk')
Row(Member_number='2227', Date=datetime.date(2015, 7, 6), items='other
vegetables, herbs')
Row(Member_number='2465', Date=datetime.date(2015, 7, 6), items='turkey, pip
fruit')
Row(Member number='2560', Date=datetime.date(2015, 7, 6), items='whole milk,
frozen meals, rolls/buns')
Row(Member number='3044', Date=datetime.date(2015, 7, 6), items='pastry, UHT-
Row(Member_number='3134', Date=datetime.date(2015, 7, 6), items='tropical fruit,
other vegetables')
Row(Member_number='3511', Date=datetime.date(2015, 7, 6), items='specialty
chocolate, specialty cheese')
Row(Member number='3926', Date=datetime.date(2015, 7, 6), items='sausage,
shopping bags')
Row(Member number='4462', Date=datetime.date(2015, 7, 6), items='domestic eggs,
citrus fruit')
Row(Member_number='4497', Date=datetime.date(2015, 7, 6), items='whole milk,
onions')
Row(Member number='4614', Date=datetime.date(2015, 7, 6), items='pip fruit,
butter')
Row(Member_number='1379', Date=datetime.date(2015, 7, 7), items='other
vegetables, herbs')
Row(Member_number='1656', Date=datetime.date(2015, 7, 7), items='tropical fruit,
dessert, white bread, bottled water')
Row(Member_number='1699', Date=datetime.date(2015, 7, 7), items='canned
vegetables, chicken, rolls/buns')
Row(Member_number='1783', Date=datetime.date(2015, 7, 7), items='sausage, UHT-
milk')
Row (Member number='1905', Date=datetime.date(2015, 7, 7), items='other
vegetables, tropical fruit, seasonal products, butter, shopping bags')
Row(Member_number='2055', Date=datetime.date(2015, 7, 7), items='photo/film,
other vegetables')
Row(Member_number='2240', Date=datetime.date(2015, 7, 7), items='sausage, frozen
vegetables')
Row(Member_number='2432', Date=datetime.date(2015, 7, 7), items='coffee, frozen
Row(Member number='3096', Date=datetime.date(2015, 7, 7), items='root
vegetables, soups')
Row(Member number='3120', Date=datetime.date(2015, 7, 7), items='yogurt,
berries, butter, pastry')
Row(Member number='3416', Date=datetime.date(2015, 7, 7), items='grapes, frozen
```

```
vegetables')
Row(Member_number='3571', Date=datetime.date(2015, 7, 7), items='coffee, baking
powder')
Row(Member_number='3597', Date=datetime.date(2015, 7, 7), items='sausage, curd')
Row (Member number='3775', Date=datetime.date(2015, 7, 7), items='pork,
beverages, brown bread, Instant food products, margarine')
Row(Member number='3861', Date=datetime.date(2015, 7, 7), items='rolls/buns,
dessert, bottled water, chocolate')
Row(Member_number='3866', Date=datetime.date(2015, 7, 7), items='chocolate,
whole milk')
Row(Member_number='3900', Date=datetime.date(2015, 7, 7), items='sausage,
Row(Member_number='4065', Date=datetime.date(2015, 7, 7), items='rolls/buns,
other vegetables, pastry')
Row(Member_number='4694', Date=datetime.date(2015, 7, 7), items='rolls/buns,
misc. beverages')
Row(Member_number='4848', Date=datetime.date(2015, 7, 7), items='tropical fruit,
rolls/buns')
Row(Member_number='4859', Date=datetime.date(2015, 7, 7), items='pork, other
vegetables')
Row(Member_number='1222', Date=datetime.date(2015, 7, 8), items='canned beer,
coffee')
Row(Member_number='1421', Date=datetime.date(2015, 7, 8), items='bottled beer,
beverages, hard cheese, fruit/vegetable juice')
Row(Member_number='1542', Date=datetime.date(2015, 7, 8), items='pork, whole
milk')
Row(Member number='1580', Date=datetime.date(2015, 7, 8), items='other
vegetables, pip fruit, domestic eggs')
Row(Member_number='1659', Date=datetime.date(2015, 7, 8), items='frankfurter,
bottled water')
Row(Member number='1774', Date=datetime.date(2015, 7, 8), items='domestic eggs,
other vegetables')
Row(Member number='1799', Date=datetime.date(2015, 7, 8), items='canned beer,
other vegetables')
Row(Member number='1845', Date=datetime.date(2015, 7, 8), items='other
vegetables, root vegetables, mayonnaise')
Row(Member_number='1915', Date=datetime.date(2015, 7, 8), items='UHT-milk,
soda')
Row(Member_number='2156', Date=datetime.date(2015, 7, 8), items='sausage, pip
fruit, bottled water')
Row(Member_number='2202', Date=datetime.date(2015, 7, 8), items='turkey,
newspapers, white wine')
Row(Member_number='2493', Date=datetime.date(2015, 7, 8), items='onions, sliced
cheese')
Row(Member_number='2840', Date=datetime.date(2015, 7, 8), items='pork,
rolls/buns')
Row(Member_number='3183', Date=datetime.date(2015, 7, 8), items='tropical fruit,
rolls/buns, fruit/vegetable juice')
```

```
Row(Member_number='3203', Date=datetime.date(2015, 7, 8), items='citrus fruit,
pet care')
Row(Member_number='3229', Date=datetime.date(2015, 7, 8), items='cat food, curd,
bottled water, frozen vegetables, tea')
Row (Member number='3793', Date=datetime.date(2015, 7, 8), items='root
vegetables, whole milk, newspapers')
Row(Member number='3872', Date=datetime.date(2015, 7, 8), items='pork, brown
bread')
Row(Member_number='4114', Date=datetime.date(2015, 7, 8), items='frankfurter,
salty snack, house keeping products')
Row(Member number='4210', Date=datetime.date(2015, 7, 8), items='chicken, other
vegetables')
Row(Member_number='4437', Date=datetime.date(2015, 7, 8), items='pastry, chewing
gum')
Row(Member_number='4482', Date=datetime.date(2015, 7, 8), items='dishes,
shopping bags, hard cheese, other vegetables')
Row(Member_number='4592', Date=datetime.date(2015, 7, 8), items='domestic eggs,
hamburger meat')
Row(Member_number='4595', Date=datetime.date(2015, 7, 8), items='yogurt, frozen
meals')
Row(Member_number='4706', Date=datetime.date(2015, 7, 8), items='frozen meals,
whole milk')
Row(Member_number='1518', Date=datetime.date(2015, 7, 9), items='pastry, other
vegetables')
Row(Member_number='1603', Date=datetime.date(2015, 7, 9), items='whole milk,
frankfurter, domestic eggs, flour')
Row(Member number='1924', Date=datetime.date(2015, 7, 9), items='sausage, semi-
finished bread')
Row(Member_number='1932', Date=datetime.date(2015, 7, 9), items='whole milk, pip
Row(Member number='2113', Date=datetime.date(2015, 7, 9), items='bottled water,
sausage, whole milk, margarine')
Row(Member_number='2210', Date=datetime.date(2015, 7, 9), items='sausage,
rolls/buns')
Row(Member number='2691', Date=datetime.date(2015, 7, 9), items='frankfurter,
domestic eggs')
Row(Member number='3047', Date=datetime.date(2015, 7, 9), items='sausage, whole
Row(Member_number='3705', Date=datetime.date(2015, 7, 9), items='soda, root
vegetables, rolls/buns')
Row(Member_number='3867', Date=datetime.date(2015, 7, 9), items='brown bread,
skin care, whipped/sour cream')
Row(Member_number='4041', Date=datetime.date(2015, 7, 9), items='rolls/buns,
grapes, yogurt, whole milk')
Row(Member_number='4180', Date=datetime.date(2015, 7, 9), items='dessert,
hamburger meat')
Row(Member_number='4473', Date=datetime.date(2015, 7, 9), items='pork,
rolls/buns, sparkling wine')
```

```
Row(Member number='4689', Date=datetime.date(2015, 7, 9), items='canned beer,
domestic eggs')
Row(Member_number='4895', Date=datetime.date(2015, 7, 9), items='sausage,
domestic eggs')
Row(Member number='1145', Date=datetime.date(2015, 7, 10), items='tropical
fruit, root vegetables')
Row(Member number='1331', Date=datetime.date(2015, 7, 10), items='condensed
milk, domestic eggs')
Row(Member number='1484', Date=datetime.date(2015, 7, 10), items='beef, soda,
white wine, soft cheese')
Row(Member number='1672', Date=datetime.date(2015, 7, 10), items='whole milk,
Row(Member_number='1922', Date=datetime.date(2015, 7, 10), items='butter milk,
beverages, butter')
Row(Member_number='2040', Date=datetime.date(2015, 7, 10), items='beverages,
sugar')
Row(Member_number='2049', Date=datetime.date(2015, 7, 10), items='tropical
fruit, whole milk')
Row(Member_number='2120', Date=datetime.date(2015, 7, 10), items='pork, pip
fruit')
Row (Member number='2336', Date=datetime.date(2015, 7, 10), items='other
vegetables, sparkling wine, frozen meals, rolls/buns')
Row(Member_number='2340', Date=datetime.date(2015, 7, 10), items='frozen fish,
beef')
Row(Member_number='2467', Date=datetime.date(2015, 7, 10), items='curd, yogurt')
Row(Member_number='2685', Date=datetime.date(2015, 7, 10), items='bottled water,
yogurt, butter')
Row(Member_number='2946', Date=datetime.date(2015, 7, 10), items='soda, pip
fruit, pasta')
Row(Member_number='3269', Date=datetime.date(2015, 7, 10), items='whipped/sour
cream, whole milk')
Row(Member_number='3547', Date=datetime.date(2015, 7, 10), items='rolls/buns,
pastry, butter, processed cheese, other vegetables, whole milk, chocolate, hard
cheese')
Row(Member number='3768', Date=datetime.date(2015, 7, 10), items='whole milk,
tropical fruit')
Row(Member number='3919', Date=datetime.date(2015, 7, 10), items='whipped/sour
cream, root vegetables')
Row(Member_number='4214', Date=datetime.date(2015, 7, 10), items='long life
bakery product, citrus fruit, rolls/buns')
Row(Member_number='4223', Date=datetime.date(2015, 7, 10), items='sliced cheese,
pastry, onions')
Row(Member_number='4508', Date=datetime.date(2015, 7, 10), items='frankfurter,
root vegetables')
Row(Member_number='4525', Date=datetime.date(2015, 7, 10), items='other
vegetables, hygiene articles')
Row(Member_number='1021', Date=datetime.date(2015, 7, 11), items='rolls/buns,
baking powder')
```

```
Row(Member_number='1278', Date=datetime.date(2015, 7, 11), items='meat, root
vegetables')
Row(Member number='1315', Date=datetime.date(2015, 7, 11), items='ham,
chocolate')
Row(Member number='1431', Date=datetime.date(2015, 7, 11), items='citrus fruit,
bottled water, specialty bar')
Row(Member number='1533', Date=datetime.date(2015, 7, 11), items='citrus fruit,
other vegetables')
Row(Member number='2083', Date=datetime.date(2015, 7, 11), items='tropical
fruit, grapes, ice cream, sweet spreads')
Row(Member_number='2117', Date=datetime.date(2015, 7, 11), items='frankfurter,
pastry, salt')
Row(Member_number='2536', Date=datetime.date(2015, 7, 11), items='whole milk,
pastry')
Row(Member_number='2676', Date=datetime.date(2015, 7, 11), items='margarine,
bottled water')
Row(Member_number='2762', Date=datetime.date(2015, 7, 11), items='decalcifier,
whole milk')
Row(Member_number='2818', Date=datetime.date(2015, 7, 11), items='tropical
fruit, root vegetables')
Row(Member_number='2940', Date=datetime.date(2015, 7, 11), items='yogurt, whole
milk')
Row(Member_number='3220', Date=datetime.date(2015, 7, 11), items='rolls/buns')
Row(Member_number='3325', Date=datetime.date(2015, 7, 11), items='ham, root
vegetables, newspapers, other vegetables')
Row(Member_number='3393', Date=datetime.date(2015, 7, 11), items='white bread,
pastry, whole milk, newspapers')
Row(Member_number='3663', Date=datetime.date(2015, 7, 11), items='tropical
fruit, frozen fish')
Row(Member_number='4129', Date=datetime.date(2015, 7, 11), items='citrus fruit,
margarine')
Row(Member_number='4196', Date=datetime.date(2015, 7, 11), items='brown bread,
whipped/sour cream')
Row(Member_number='4555', Date=datetime.date(2015, 7, 11), items='citrus fruit,
whole milk, yogurt, canned beer')
Row(Member_number='4609', Date=datetime.date(2015, 7, 11), items='whole milk,
Row(Member_number='1264', Date=datetime.date(2015, 7, 12), items='tropical
fruit, yogurt, semi-finished bread, soda')
Row(Member_number='1653', Date=datetime.date(2015, 7, 12), items='pip fruit,
frozen vegetables, butter milk')
Row(Member_number='2045', Date=datetime.date(2015, 7, 12), items='pork, grapes')
Row(Member_number='2184', Date=datetime.date(2015, 7, 12), items='ham,
beverages, margarine')
Row(Member_number='2406', Date=datetime.date(2015, 7, 12), items='sausage,
whipped/sour cream')
Row(Member_number='2653', Date=datetime.date(2015, 7, 12), items='whole milk,
spread cheese')
```

```
Row(Member number='2677', Date=datetime.date(2015, 7, 12), items='sausage, UHT-
milk')
Row(Member_number='2824', Date=datetime.date(2015, 7, 12), items='pork, tropical
fruit, whole milk, chewing gum')
Row(Member number='3404', Date=datetime.date(2015, 7, 12), items='butter milk,
whole milk')
Row(Member number='4303', Date=datetime.date(2015, 7, 12), items='chicken, white
Row(Member_number='4516', Date=datetime.date(2015, 7, 12), items='root
vegetables, candy')
Row(Member number='4820', Date=datetime.date(2015, 7, 12), items='pet care,
snack products')
Row(Member number='1032', Date=datetime.date(2015, 7, 13), items='ice cream,
whipped/sour cream')
Row(Member_number='1379', Date=datetime.date(2015, 7, 13), items='popcorn,
domestic eggs, canned beer, butter milk')
Row(Member_number='1417', Date=datetime.date(2015, 7, 13), items='pip fruit, pot
plants')
Row(Member_number='1603', Date=datetime.date(2015, 7, 13), items='canned beer,
whole milk')
Row(Member_number='1722', Date=datetime.date(2015, 7, 13), items='tropical
fruit, whole milk')
Row(Member_number='1734', Date=datetime.date(2015, 7, 13), items='rolls/buns,
bottled water')
Row(Member_number='1866', Date=datetime.date(2015, 7, 13), items='chicken,
pastry')
Row(Member number='2743', Date=datetime.date(2015, 7, 13), items='citrus fruit,
whole milk, frozen vegetables')
Row(Member number='3036', Date=datetime.date(2015, 7, 13), items='beef, whole
milk, root vegetables, whipped/sour cream, other vegetables')
Row(Member number='3268', Date=datetime.date(2015, 7, 13), items='citrus fruit,
whole milk, specialty cheese')
Row(Member number='3280', Date=datetime.date(2015, 7, 13), items='whole milk,
UHT-milk')
Row(Member number='3321', Date=datetime.date(2015, 7, 13), items='sausage,
coffee, yogurt, white wine')
Row(Member number='3746', Date=datetime.date(2015, 7, 13), items='sausage, whole
Row(Member_number='4592', Date=datetime.date(2015, 7, 13), items='citrus fruit,
pastry, newspapers, chewing gum')
Row(Member_number='4597', Date=datetime.date(2015, 7, 13), items='frankfurter,
seasonal products')
Row(Member_number='1120', Date=datetime.date(2015, 7, 14), items='citrus fruit,
brown bread')
Row(Member_number='1572', Date=datetime.date(2015, 7, 14), items='specialty
chocolate, whipped/sour cream')
Row(Member_number='1596', Date=datetime.date(2015, 7, 14), items='bottled water,
beverages')
```

```
Row(Member_number='2157', Date=datetime.date(2015, 7, 14), items='meat,
beverages, newspapers, candy')
Row(Member number='2511', Date=datetime.date(2015, 7, 14), items='specialty
chocolate, cat food')
Row(Member number='2564', Date=datetime.date(2015, 7, 14), items='frankfurter,
white wine')
Row(Member number='2911', Date=datetime.date(2015, 7, 14), items='soda, other
vegetables')
Row(Member number='2998', Date=datetime.date(2015, 7, 14), items='canned beer,
yogurt, salty snack')
Row(Member number='3517', Date=datetime.date(2015, 7, 14), items='whole milk,
hard cheese')
Row(Member_number='3621', Date=datetime.date(2015, 7, 14), items='other
vegetables, bottled water, whipped/sour cream')
Row(Member_number='3633', Date=datetime.date(2015, 7, 14), items='rolls/buns,
bottled beer, coffee, pastry, brown bread, napkins')
Row(Member_number='4009', Date=datetime.date(2015, 7, 14), items='tropical
fruit, whole milk, dish cleaner, yogurt, newspapers')
Row(Member_number='4063', Date=datetime.date(2015, 7, 14), items='whole milk,
sausage, pastry, spices, soda')
Row(Member number='4600', Date=datetime.date(2015, 7, 14), items='beef, salty
snack, whole milk, domestic eggs, fruit/vegetable juice, whipped/sour cream, cat
Row(Member number='4658', Date=datetime.date(2015, 7, 14), items='sausage,
pastry, dish cleaner')
Row(Member number='4804', Date=datetime.date(2015, 7, 14), items='whole milk,
sliced cheese')
Row(Member_number='1368', Date=datetime.date(2015, 7, 15), items='beef, soft
Row(Member_number='1785', Date=datetime.date(2015, 7, 15), items='butter, canned
beer, brown bread')
Row(Member_number='1939', Date=datetime.date(2015, 7, 15), items='tropical
fruit, whole milk, long life bakery product')
Row(Member_number='2234', Date=datetime.date(2015, 7, 15), items='citrus fruit,
beverages')
Row(Member_number='2329', Date=datetime.date(2015, 7, 15), items='pastry,
whipped/sour cream')
Row(Member_number='2509', Date=datetime.date(2015, 7, 15), items='hamburger
meat, rolls/buns')
Row(Member_number='2721', Date=datetime.date(2015, 7, 15), items='yogurt,
butter')
Row(Member_number='2770', Date=datetime.date(2015, 7, 15), items='yogurt,
Row(Member number='2873', Date=datetime.date(2015, 7, 15), items='photo/film,
liquor (appetizer)')
Row(Member_number='3014', Date=datetime.date(2015, 7, 15), items='whipped/sour
cream, berries, cream cheese ')
Row(Member number='3710', Date=datetime.date(2015, 7, 15), items='whole milk,
```

```
yogurt')
Row(Member_number='3738', Date=datetime.date(2015, 7, 15), items='other
vegetables, rolls/buns')
Row(Member_number='4102', Date=datetime.date(2015, 7, 15), items='fish, whole
milk')
Row(Member number='4671', Date=datetime.date(2015, 7, 15), items='frankfurter,
instant coffee, root vegetables, coffee, sugar, rolls/buns')
Row(Member_number='4850', Date=datetime.date(2015, 7, 15), items='other
vegetables, packaged fruit/vegetables')
Row(Member_number='1275', Date=datetime.date(2015, 7, 16), items='other
vegetables, whole milk')
Row(Member_number='2070', Date=datetime.date(2015, 7, 16), items='frankfurter,
oil, soda')
Row(Member number='2151', Date=datetime.date(2015, 7, 16), items='beef, other
vegetables')
Row(Member_number='2204', Date=datetime.date(2015, 7, 16), items='pork,
detergent, bottled beer')
Row(Member number='2326', Date=datetime.date(2015, 7, 16), items='citrus fruit,
whole milk, UHT-milk')
Row(Member number='2569', Date=datetime.date(2015, 7, 16), items='cream cheese,
yogurt, whipped/sour cream')
Row(Member_number='2813', Date=datetime.date(2015, 7, 16), items='coffee,
tidbits')
Row(Member number='2867', Date=datetime.date(2015, 7, 16), items='turkey, soft
cheese, other vegetables, canned beer')
Row(Member number='2947', Date=datetime.date(2015, 7, 16), items='sausage,
yogurt')
Row(Member_number='3687', Date=datetime.date(2015, 7, 16), items='pork, citrus
fruit, chocolate marshmallow, white bread, whipped/sour cream')
Row(Member_number='4376', Date=datetime.date(2015, 7, 16), items='whole milk,
rolls/buns, jam, red/blush wine')
Row(Member_number='4554', Date=datetime.date(2015, 7, 16), items='tropical
fruit, citrus fruit, male cosmetics')
Row(Member_number='4585', Date=datetime.date(2015, 7, 16), items='oil,
whipped/sour cream, specialty cheese, soda, beverages')
Row(Member_number='4774', Date=datetime.date(2015, 7, 16), items='red/blush
wine, pip fruit')
Row(Member_number='2041', Date=datetime.date(2015, 7, 17), items='detergent,
liquor (appetizer)')
Row(Member_number='2159', Date=datetime.date(2015, 7, 17), items='ham, white
bread')
Row(Member_number='2349', Date=datetime.date(2015, 7, 17), items='ice cream,
bottled beer')
Row(Member_number='2435', Date=datetime.date(2015, 7, 17), items='onions')
Row(Member_number='2571', Date=datetime.date(2015, 7, 17), items='frankfurter,
Row(Member_number='2622', Date=datetime.date(2015, 7, 17), items='pip fruit,
other vegetables, hard cheese, sausage, rolls/buns, grapes')
```

```
Row(Member number='2736', Date=datetime.date(2015, 7, 17), items='meat, beef,
curd')
Row(Member number='2814', Date=datetime.date(2015, 7, 17), items='newspapers,
hamburger meat, whole milk, specialty cheese')
Row(Member number='2979', Date=datetime.date(2015, 7, 17), items='sausage,
sliced cheese, ice cream, long life bakery product')
Row(Member number='3067', Date=datetime.date(2015, 7, 17), items='butter milk,
packaged fruit/vegetables')
Row(Member number='3308', Date=datetime.date(2015, 7, 17), items='rolls/buns,
soda')
Row(Member number='3521', Date=datetime.date(2015, 7, 17), items='yogurt, whole
milk')
Row(Member_number='3650', Date=datetime.date(2015, 7, 17), items='other
vegetables, curd, beef, white bread')
Row(Member_number='3832', Date=datetime.date(2015, 7, 17), items='frankfurter,
whole milk, canned fish')
Row(Member_number='4234', Date=datetime.date(2015, 7, 17), items='whole milk,
domestic eggs, canned vegetables, baking powder, hygiene articles, detergent')
Row(Member_number='4295', Date=datetime.date(2015, 7, 17), items='ham, butter
milk')
Row(Member_number='4932', Date=datetime.date(2015, 7, 17), items='UHT-milk,
beverages')
Row(Member_number='4976', Date=datetime.date(2015, 7, 17), items='bottled water,
frankfurter, tropical fruit, liquor, specialty chocolate')
Row(Member_number='1459', Date=datetime.date(2015, 7, 18), items='citrus fruit,
whole milk, curd, chocolate marshmallow')
Row(Member number='1727', Date=datetime.date(2015, 7, 18), items='citrus fruit,
beef')
Row(Member_number='2118', Date=datetime.date(2015, 7, 18), items='fish, pot
plants, coffee')
Row(Member number='2370', Date=datetime.date(2015, 7, 18), items='specialty
chocolate, pastry')
Row(Member_number='2431', Date=datetime.date(2015, 7, 18), items='chicken,
shopping bags')
Row(Member number='2794', Date=datetime.date(2015, 7, 18), items='ham, whole
milk')
Row(Member number='2868', Date=datetime.date(2015, 7, 18), items='waffles, pip
fruit, whole milk, beef, yogurt')
Row(Member_number='3099', Date=datetime.date(2015, 7, 18), items='pip fruit,
whole milk')
Row(Member_number='3732', Date=datetime.date(2015, 7, 18), items='nuts/prunes,
root vegetables, white wine, pastry')
Row(Member_number='3776', Date=datetime.date(2015, 7, 18), items='coffee, soda')
Row(Member_number='3928', Date=datetime.date(2015, 7, 18), items='butter milk,
soda, ham, bottled beer, detergent')
Row(Member_number='4258', Date=datetime.date(2015, 7, 18), items='frankfurter,
chocolate')
Row(Member_number='4964', Date=datetime.date(2015, 7, 18), items='frankfurter,
```

```
yogurt')
Row(Member_number='1016', Date=datetime.date(2015, 7, 19), items='chicken,
red/blush wine')
Row(Member_number='1152', Date=datetime.date(2015, 7, 19), items='pork, domestic
eggs')
Row(Member_number='1279', Date=datetime.date(2015, 7, 19), items='root
vegetables, ham')
Row(Member_number='1373', Date=datetime.date(2015, 7, 19), items='curd, grapes,
soups, whole milk')
Row(Member_number='1456', Date=datetime.date(2015, 7, 19), items='whole milk,
domestic eggs')
Row(Member number='1846', Date=datetime.date(2015, 7, 19), items='rolls/buns,
oil')
Row(Member_number='1907', Date=datetime.date(2015, 7, 19), items='sausage,
newspapers, cream')
Row(Member number='2079', Date=datetime.date(2015, 7, 19), items='curd, whole
milk, pet care')
Row(Member number='2148', Date=datetime.date(2015, 7, 19), items='newspapers,
hard cheese')
Row(Member number='2464', Date=datetime.date(2015, 7, 19), items='beef, other
vegetables')
Row(Member number='2685', Date=datetime.date(2015, 7, 19), items='frankfurter,
other vegetables')
Row(Member_number='2910', Date=datetime.date(2015, 7, 19), items='citrus fruit,
yogurt')
Row(Member_number='2918', Date=datetime.date(2015, 7, 19), items='sausage,
bathroom cleaner')
Row(Member_number='2945', Date=datetime.date(2015, 7, 19), items='chicken,
pastry, waffles')
Row(Member_number='3141', Date=datetime.date(2015, 7, 19), items='pork,
rolls/buns')
Row(Member_number='3399', Date=datetime.date(2015, 7, 19), items='sausage,
tropical fruit, yogurt, rolls/buns, margarine, shopping bags')
Row(Member_number='3841', Date=datetime.date(2015, 7, 19), items='berries, pork,
whole milk, frozen vegetables, domestic eggs')
Row(Member_number='3997', Date=datetime.date(2015, 7, 19), items='curd cheese,
mustard, bottled water')
Row(Member_number='4113', Date=datetime.date(2015, 7, 19), items='tropical
fruit, bottled beer')
Row(Member_number='4223', Date=datetime.date(2015, 7, 19), items='citrus fruit,
bottled water')
Row(Member_number='4610', Date=datetime.date(2015, 7, 19), items='pip fruit,
newspapers, chocolate')
Row(Member_number='4667', Date=datetime.date(2015, 7, 19), items='frankfurter,
condensed milk')
Row(Member_number='4685', Date=datetime.date(2015, 7, 19), items='berries, whole
milk, sugar')
Row(Member number='1067', Date=datetime.date(2015, 7, 20), items='rolls/buns,
```

```
tropical fruit, coffee, chocolate')
Row(Member_number='1075', Date=datetime.date(2015, 7, 20), items='frankfurter,
frozen meals, dishes')
Row(Member_number='1431', Date=datetime.date(2015, 7, 20), items='yogurt,
domestic eggs')
Row(Member number='1705', Date=datetime.date(2015, 7, 20), items='white bread,
cream cheese ')
Row(Member_number='2209', Date=datetime.date(2015, 7, 20), items='cat food,
tropical fruit, onions, tidbits')
Row(Member_number='2553', Date=datetime.date(2015, 7, 20), items='chicken,
organic products')
Row(Member_number='3557', Date=datetime.date(2015, 7, 20), items='ham, chocolate
marshmallow')
Row(Member_number='3591', Date=datetime.date(2015, 7, 20), items='frankfurter,
newspapers')
Row(Member number='3662', Date=datetime.date(2015, 7, 20), items='whole milk,
rolls/buns')
Row(Member_number='3892', Date=datetime.date(2015, 7, 20), items='frozen
chicken, herbs, yogurt')
Row(Member number='3983', Date=datetime.date(2015, 7, 20), items='chicken,
butter milk, sugar')
Row(Member number='4223', Date=datetime.date(2015, 7, 20), items='root
vegetables, other vegetables')
Row(Member_number='4254', Date=datetime.date(2015, 7, 20), items='root
vegetables, white wine')
Row(Member_number='4352', Date=datetime.date(2015, 7, 20), items='pork, frozen
meals, margarine, dessert')
Row(Member_number='4487', Date=datetime.date(2015, 7, 20), items='onions')
Row(Member_number='4518', Date=datetime.date(2015, 7, 20), items='yogurt, rice,
butter')
Row(Member_number='4792', Date=datetime.date(2015, 7, 20), items='turkey, UHT-
Row(Member number='1008', Date=datetime.date(2015, 7, 21), items='tropical
fruit, soda, yogurt, root vegetables, domestic eggs, white wine, photo/film')
Row(Member number='1285', Date=datetime.date(2015, 7, 21), items='yogurt,
hygiene articles')
Row(Member number='1345', Date=datetime.date(2015, 7, 21), items='frankfurter,
grapes, salt, napkins, soda')
Row(Member_number='1551', Date=datetime.date(2015, 7, 21), items='dessert,
curd')
Row(Member_number='1553', Date=datetime.date(2015, 7, 21), items='other
vegetables, sliced cheese')
Row(Member number='1808', Date=datetime.date(2015, 7, 21), items='tropical
fruit, rolls/buns, candy')
Row(Member_number='1997', Date=datetime.date(2015, 7, 21), items='frankfurter,
soda, canned beer, white bread, brown bread')
Row(Member_number='2222', Date=datetime.date(2015, 7, 21), items='berries, other
vegetables, butter, newspapers')
```

```
Row(Member_number='2253', Date=datetime.date(2015, 7, 21), items='frankfurter,
white bread')
Row(Member number='2769', Date=datetime.date(2015, 7, 21), items='sparkling
wine, canned beer')
Row(Member number='2961', Date=datetime.date(2015, 7, 21), items='soda, canned
beer, white bread, berries')
Row(Member number='3128', Date=datetime.date(2015, 7, 21), items='dessert,
newspapers, bottled water')
Row(Member number='3215', Date=datetime.date(2015, 7, 21), items='whipped/sour
cream, canned beer, sliced cheese')
Row(Member_number='3318', Date=datetime.date(2015, 7, 21), items='other
vegetables, curd')
Row(Member number='3500', Date=datetime.date(2015, 7, 21), items='pip fruit,
misc. beverages')
Row(Member number='3505', Date=datetime.date(2015, 7, 21), items='soda, other
vegetables, white bread')
Row(Member_number='3585', Date=datetime.date(2015, 7, 21), items='citrus fruit,
other vegetables')
Row(Member_number='3812', Date=datetime.date(2015, 7, 21), items='sausage')
Row(Member number='3814', Date=datetime.date(2015, 7, 21), items='citrus fruit,
canned beer, hygiene articles, chicken, whole milk, napkins, white wine, UHT-
milk, shopping bags')
Row(Member_number='4108', Date=datetime.date(2015, 7, 21), items='bottled water,
root vegetables, rolls/buns, whole milk, coffee')
Row(Member_number='4328', Date=datetime.date(2015, 7, 21), items='citrus fruit,
beef, tropical fruit, curd')
Row(Member_number='4429', Date=datetime.date(2015, 7, 21), items='grapes,
rolls/buns, pot plants')
Row(Member_number='4486', Date=datetime.date(2015, 7, 21), items='canned beer,
hygiene articles, pork, soft cheese, bottled beer, rolls/buns, chocolate
marshmallow')
Row(Member_number='4736', Date=datetime.date(2015, 7, 21), items='butter, other
vegetables, soda, yogurt, UHT-milk')
Row(Member_number='4895', Date=datetime.date(2015, 7, 21), items='sugar, whole
milk, pastry, salty snack')
Row(Member_number='1202', Date=datetime.date(2015, 7, 22), items='soda, curd
cheese, root vegetables, semi-finished bread')
Row(Member_number='1396', Date=datetime.date(2015, 7, 22), items='tropical
fruit, pork, coffee, canned beer, shopping bags, chocolate')
Row(Member_number='1698', Date=datetime.date(2015, 7, 22), items='other
vegetables, yogurt, brown bread')
Row(Member_number='1949', Date=datetime.date(2015, 7, 22), items='canned beer,
soda, frozen vegetables')
Row(Member_number='2022', Date=datetime.date(2015, 7, 22), items='sausage, beef,
white wine, other vegetables')
Row(Member_number='2215', Date=datetime.date(2015, 7, 22), items='salty snack,
frozen vegetables')
Row(Member_number='2515', Date=datetime.date(2015, 7, 22), items='frankfurter,
```

```
shopping bags, rolls/buns')
Row(Member_number='2568', Date=datetime.date(2015, 7, 22), items='pork, tropical
fruit')
Row(Member_number='2733', Date=datetime.date(2015, 7, 22), items='yogurt')
Row(Member number='2765', Date=datetime.date(2015, 7, 22), items='beef, waffles,
domestic eggs')
Row(Member number='3361', Date=datetime.date(2015, 7, 22), items='chocolate,
Row(Member number='3485', Date=datetime.date(2015, 7, 22), items='rolls/buns,
tropical fruit')
Row(Member_number='3507', Date=datetime.date(2015, 7, 22), items='other
vegetables, pastry')
Row(Member_number='3756', Date=datetime.date(2015, 7, 22), items='soda, bottled
Row(Member_number='4376', Date=datetime.date(2015, 7, 22), items='chicken,
soda')
Row(Member_number='4405', Date=datetime.date(2015, 7, 22), items='frankfurter,
curd cheese, chocolate, pastry, soda')
Row(Member_number='4411', Date=datetime.date(2015, 7, 22), items='ham, curd')
Row(Member number='4444', Date=datetime.date(2015, 7, 22), items='sausage,
rolls/buns, UHT-milk, onions')
Row(Member number='4601', Date=datetime.date(2015, 7, 22), items='pork,
rolls/buns')
Row(Member_number='4695', Date=datetime.date(2015, 7, 22), items='yogurt,
margarine, newspapers')
Row(Member_number='4864', Date=datetime.date(2015, 7, 22), items='canned beer,
rolls/buns')
Row(Member_number='1116', Date=datetime.date(2015, 7, 23), items='chicken,
bottled water')
Row(Member_number='1204', Date=datetime.date(2015, 7, 23), items='sliced cheese,
pip fruit')
Row(Member_number='1295', Date=datetime.date(2015, 7, 23), items='frankfurter,
chicken, processed cheese, dessert')
Row(Member_number='1408', Date=datetime.date(2015, 7, 23), items='root
vegetables, whole milk, soda')
Row(Member_number='1603', Date=datetime.date(2015, 7, 23), items='canned beer,
white bread')
Row(Member_number='1724', Date=datetime.date(2015, 7, 23), items='whole milk,
canned beer')
Row(Member_number='1729', Date=datetime.date(2015, 7, 23), items='frankfurter,
rolls/buns, newspapers, waffles')
Row(Member_number='1969', Date=datetime.date(2015, 7, 23), items='sausage,
citrus fruit')
Row(Member number='2051', Date=datetime.date(2015, 7, 23), items='other
vegetables, beverages, fruit/vegetable juice, prosecco, ice cream, soda, root
vegetables')
Row(Member_number='2152', Date=datetime.date(2015, 7, 23), items='butter,
fruit/vegetable juice')
```

```
Row(Member_number='2335', Date=datetime.date(2015, 7, 23), items='soda, tropical
fruit')
Row(Member number='2475', Date=datetime.date(2015, 7, 23), items='tropical
fruit, napkins')
Row(Member number='2729', Date=datetime.date(2015, 7, 23), items='hamburger
meat, cream cheese ')
Row(Member number='2879', Date=datetime.date(2015, 7, 23), items='liver loaf,
whipped/sour cream')
Row(Member_number='3554', Date=datetime.date(2015, 7, 23), items='citrus fruit,
root vegetables')
Row(Member_number='3635', Date=datetime.date(2015, 7, 23), items='beef,
chocolate, pastry')
Row(Member_number='3978', Date=datetime.date(2015, 7, 23), items='sausage,
Row(Member_number='3986', Date=datetime.date(2015, 7, 23), items='coffee,
bottled water')
Row(Member_number='4509', Date=datetime.date(2015, 7, 23), items='sausage,
bottled water')
Row(Member_number='4555', Date=datetime.date(2015, 7, 23), items='tropical
fruit, pip fruit, whole milk, other vegetables')
Row(Member_number='4820', Date=datetime.date(2015, 7, 23), items='whole milk,
domestic eggs, syrup')
Row(Member_number='4970', Date=datetime.date(2015, 7, 23), items='berries,
sliced cheese')
Row(Member_number='1000', Date=datetime.date(2015, 7, 24), items='canned beer,
misc. beverages')
Row(Member number='1482', Date=datetime.date(2015, 7, 24), items='bottled beer,
sausage, cream cheese , frozen vegetables')
Row(Member_number='1785', Date=datetime.date(2015, 7, 24), items='ham, berries')
Row(Member_number='1833', Date=datetime.date(2015, 7, 24), items='frozen
chicken, dessert')
Row(Member_number='1844', Date=datetime.date(2015, 7, 24), items='UHT-milk, pip
fruit, specialty chocolate, chewing gum, canned fruit')
Row(Member_number='2355', Date=datetime.date(2015, 7, 24), items='tropical
fruit, bottled beer')
Row(Member_number='2764', Date=datetime.date(2015, 7, 24), items='other
vegetables, curd')
Row(Member_number='3460', Date=datetime.date(2015, 7, 24), items='pork, root
vegetables, curd, canned vegetables, cream cheese, fruit/vegetable juice, nut
Row(Member_number='3551', Date=datetime.date(2015, 7, 24), items='pork, pastry')
Row(Member_number='3630', Date=datetime.date(2015, 7, 24), items='hard cheese,
Row(Member number='3764', Date=datetime.date(2015, 7, 24), items='frozen potato
products, margarine')
Row(Member number='3878', Date=datetime.date(2015, 7, 24), items='citrus fruit,
rolls/buns')
Row(Member number='3985', Date=datetime.date(2015, 7, 24), items='liver loaf,
```

```
canned beer, candy')
Row(Member_number='4019', Date=datetime.date(2015, 7, 24), items='rolls/buns,
margarine, domestic eggs')
Row(Member_number='4305', Date=datetime.date(2015, 7, 24), items='pastry,
coffee, newspapers')
Row(Member_number='1064', Date=datetime.date(2015, 7, 25), items='long life
bakery product, root vegetables, other vegetables')
Row(Member_number='1239', Date=datetime.date(2015, 7, 25), items='finished
products, yogurt, bottled beer, bottled water')
Row(Member_number='1442', Date=datetime.date(2015, 7, 25), items='pastry,
onions')
Row(Member_number='1503', Date=datetime.date(2015, 7, 25), items='chicken,
finished products, meat, fruit/vegetable juice')
Row(Member number='1561', Date=datetime.date(2015, 7, 25), items='whole milk,
domestic eggs, long life bakery product')
Row(Member_number='2143', Date=datetime.date(2015, 7, 25), items='canned beer,
tropical fruit, pet care')
Row(Member_number='2738', Date=datetime.date(2015, 7, 25), items='other
vegetables, rolls/buns')
Row(Member number='3173', Date=datetime.date(2015, 7, 25), items='whipped/sour
cream, root vegetables')
Row(Member number='3300', Date=datetime.date(2015, 7, 25), items='cat food,
newspapers')
Row(Member_number='3331', Date=datetime.date(2015, 7, 25), items='waffles, whole
milk, shopping bags, flour')
Row(Member number='3419', Date=datetime.date(2015, 7, 25), items='tropical
fruit, pot plants')
Row(Member_number='3438', Date=datetime.date(2015, 7, 25), items='liquor,
Instant food products')
Row(Member_number='3508', Date=datetime.date(2015, 7, 25), items='dessert,
curd')
Row(Member_number='3661', Date=datetime.date(2015, 7, 25), items='pip fruit,
citrus fruit, other vegetables, white wine, frozen vegetables')
Row(Member_number='3982', Date=datetime.date(2015, 7, 25), items='sausage,
yogurt')
Row(Member_number='3986', Date=datetime.date(2015, 7, 25), items='tropical
fruit, curd, whole milk, other vegetables')
Row(Member_number='4298', Date=datetime.date(2015, 7, 25), items='butter, whole
milk, root vegetables')
Row(Member_number='4485', Date=datetime.date(2015, 7, 25), items='root
vegetables, beef, whole milk, curd')
Row(Member_number='4645', Date=datetime.date(2015, 7, 25), items='domestic eggs,
whole milk, fruit/vegetable juice')
Row(Member_number='1497', Date=datetime.date(2015, 7, 26), items='shopping bags,
butter milk')
Row(Member_number='1660', Date=datetime.date(2015, 7, 26), items='beef,
specialty chocolate')
Row(Member_number='1854', Date=datetime.date(2015, 7, 26), items='other
```

```
vegetables, newspapers')
Row(Member_number='1908', Date=datetime.date(2015, 7, 26), items='ice cream,
butter')
Row(Member_number='2060', Date=datetime.date(2015, 7, 26), items='pip fruit,
specialty fat')
Row(Member number='2294', Date=datetime.date(2015, 7, 26), items='chocolate,
citrus fruit, bottled beer, bottled water, red/blush wine')
Row(Member_number='3135', Date=datetime.date(2015, 7, 26), items='yogurt,
Row(Member_number='3330', Date=datetime.date(2015, 7, 26), items='hamburger
meat, chewing gum, curd')
Row(Member_number='3622', Date=datetime.date(2015, 7, 26), items='soda, cake
bar')
Row(Member_number='3790', Date=datetime.date(2015, 7, 26), items='sausage,
domestic eggs, sweet spreads')
Row(Member_number='4035', Date=datetime.date(2015, 7, 26), items='yogurt, frozen
dessert')
Row(Member_number='4103', Date=datetime.date(2015, 7, 26), items='chicken, whole
milk')
Row(Member_number='4166', Date=datetime.date(2015, 7, 26), items='bottled beer,
yogurt, pastry, butter, shopping bags')
Row(Member_number='4387', Date=datetime.date(2015, 7, 26), items='canned beer,
brown bread')
Row(Member_number='4808', Date=datetime.date(2015, 7, 26), items='meat, fish,
meat spreads, abrasive cleaner, margarine')
Row(Member number='4898', Date=datetime.date(2015, 7, 26), items='sausage,
flour')
Row(Member number='1092', Date=datetime.date(2015, 7, 27), items='rolls/buns,
grapes, bottled beer, sausage, salty snack, Instant food products, domestic
eggs, bottled water')
Row(Member_number='1118', Date=datetime.date(2015, 7, 27), items='ham, yogurt')
Row(Member_number='1298', Date=datetime.date(2015, 7, 27), items='bottled beer,
Instant food products')
Row(Member_number='1505', Date=datetime.date(2015, 7, 27), items='shopping bags,
beef, citrus fruit, cat food')
Row(Member_number='2466', Date=datetime.date(2015, 7, 27), items='beef, other
vegetables')
Row(Member_number='2538', Date=datetime.date(2015, 7, 27), items='other
vegetables, seasonal products, bottled water')
Row(Member_number='2671', Date=datetime.date(2015, 7, 27), items='chewing gum,
sugar')
Row(Member number='2759', Date=datetime.date(2015, 7, 27), items='yogurt,
rolls/buns')
Row(Member_number='3058', Date=datetime.date(2015, 7, 27), items='sausage,
Row(Member number='3501', Date=datetime.date(2015, 7, 27), items='rolls/buns,
UHT-milk')
Row(Member_number='3730', Date=datetime.date(2015, 7, 27), items='candy, other
```

```
vegetables')
Row(Member_number='3973', Date=datetime.date(2015, 7, 27), items='curd, coffee')
Row(Member_number='4070', Date=datetime.date(2015, 7, 27), items='sausage, other
vegetables')
Row(Member number='4104', Date=datetime.date(2015, 7, 27), items='other
vegetables, whipped/sour cream, whole milk, sugar')
Row (Member number='4133', Date=datetime.date(2015, 7, 27), items='root
vegetables, semi-finished bread')
Row(Member_number='4153', Date=datetime.date(2015, 7, 27), items='bottled water,
rolls/buns')
Row(Member number='4453', Date=datetime.date(2015, 7, 27), items='chicken,
Row(Member_number='4566', Date=datetime.date(2015, 7, 27), items='frankfurter,
pastry')
Row(Member_number='4569', Date=datetime.date(2015, 7, 27), items='sausage, pip
fruit, sliced cheese, root vegetables, butter milk')
Row(Member_number='4929', Date=datetime.date(2015, 7, 27), items='rolls/buns,
grapes, potato products')
Row(Member_number='1096', Date=datetime.date(2015, 7, 28), items='pip fruit,
fruit/vegetable juice')
Row(Member_number='1357', Date=datetime.date(2015, 7, 28), items='ham, brown
bread')
Row(Member_number='1409', Date=datetime.date(2015, 7, 28), items='sausage,
tropical fruit')
Row(Member_number='1583', Date=datetime.date(2015, 7, 28), items='frankfurter,
sausage, pastry, newspapers, honey')
Row(Member_number='1651', Date=datetime.date(2015, 7, 28), items='beef,
chicken')
Row(Member_number='1705', Date=datetime.date(2015, 7, 28), items='frozen fish,
whole milk')
Row(Member_number='2032', Date=datetime.date(2015, 7, 28), items='pork, tropical
fruit, dessert, meat spreads, whole milk')
Row(Member number='2171', Date=datetime.date(2015, 7, 28), items='citrus fruit,
butter')
Row(Member_number='2188', Date=datetime.date(2015, 7, 28), items='hamburger
meat, pip fruit, rolls/buns, dishes')
Row(Member_number='2495', Date=datetime.date(2015, 7, 28), items='nuts/prunes,
butter, soda, bottled beer')
Row(Member_number='2910', Date=datetime.date(2015, 7, 28), items='turkey, root
vegetables, frozen meals, soda, spread cheese')
Row(Member_number='3023', Date=datetime.date(2015, 7, 28), items='rolls/buns,
root vegetables, bottled beer, yogurt, pickled vegetables')
Row(Member_number='3295', Date=datetime.date(2015, 7, 28), items='root
vegetables, sausage, hamburger meat, rum, house keeping products')
Row(Member_number='3812', Date=datetime.date(2015, 7, 28), items='whole milk,
frozen potato products')
Row(Member_number='3840', Date=datetime.date(2015, 7, 28), items='liqueur,
yogurt')
```

```
Row(Member_number='3878', Date=datetime.date(2015, 7, 28), items='frankfurter,
pork, tropical fruit, pastry')
Row(Member number='4296', Date=datetime.date(2015, 7, 28), items='tropical
fruit, chicken, waffles')
Row(Member number='4313', Date=datetime.date(2015, 7, 28), items='frankfurter,
shopping bags')
Row(Member number='4437', Date=datetime.date(2015, 7, 28), items='pork, soft
cheese, rolls/buns, butter milk, butter')
Row(Member_number='4548', Date=datetime.date(2015, 7, 28), items='herbs, root
vegetables')
Row(Member number='4551', Date=datetime.date(2015, 7, 28), items='chicken,
artif. sweetener')
Row(Member number='4857', Date=datetime.date(2015, 7, 28), items='citrus fruit,
tropical fruit')
Row(Member_number='4881', Date=datetime.date(2015, 7, 28), items='yogurt,
chewing gum, whipped/sour cream, shopping bags')
Row(Member_number='4943', Date=datetime.date(2015, 7, 28), items='sausage,
soda')
Row(Member_number='1407', Date=datetime.date(2015, 7, 29), items='white wine,
ham, whole milk, coffee, bottled water')
Row(Member_number='1474', Date=datetime.date(2015, 7, 29), items='frankfurter,
Instant food products')
Row(Member_number='1874', Date=datetime.date(2015, 7, 29), items='frozen
vegetables, yogurt')
Row(Member_number='1875', Date=datetime.date(2015, 7, 29), items='coffee, butter
Row(Member_number='1917', Date=datetime.date(2015, 7, 29), items='chicken,
herbs')
Row(Member_number='2110', Date=datetime.date(2015, 7, 29), items='frankfurter,
tropical fruit, frozen meals, soda')
Row(Member_number='2234', Date=datetime.date(2015, 7, 29), items='canned beer,
sausage, pork, whipped/sour cream, margarine, pickled vegetables, pastry')
Row(Member_number='2265', Date=datetime.date(2015, 7, 29), items='other
vegetables, chewing gum')
Row(Member number='2446', Date=datetime.date(2015, 7, 29), items='chicken,
tropical fruit')
Row(Member number='2792', Date=datetime.date(2015, 7, 29), items='condensed
milk, frankfurter, berries, whole milk, liver loaf, sliced cheese, domestic
eggs, rolls/buns, frozen fish')
Row(Member_number='2842', Date=datetime.date(2015, 7, 29), items='sausage, whole
milk')
Row(Member_number='3141', Date=datetime.date(2015, 7, 29), items='root
vegetables, whole milk')
Row(Member number='3312', Date=datetime.date(2015, 7, 29), items='meat, whole
milk')
Row(Member_number='3677', Date=datetime.date(2015, 7, 29), items='pastry,
rolls/buns')
Row(Member_number='3689', Date=datetime.date(2015, 7, 29), items='liqueur, whole
```

```
milk, onions, soda')
Row(Member_number='4291', Date=datetime.date(2015, 7, 29), items='citrus fruit')
Row(Member_number='4694', Date=datetime.date(2015, 7, 29), items='ice cream,
whole milk')
Row(Member number='1108', Date=datetime.date(2015, 7, 30), items='brown bread,
whole milk, shopping bags')
Row(Member number='1264', Date=datetime.date(2015, 7, 30), items='sausage, other
vegetables, tropical fruit, mayonnaise')
Row(Member_number='2091', Date=datetime.date(2015, 7, 30), items='citrus fruit,
onions')
Row(Member_number='2208', Date=datetime.date(2015, 7, 30), items='pork, root
vegetables, hamburger meat, frankfurter, coffee, curd, cake bar, soda')
Row(Member_number='2476', Date=datetime.date(2015, 7, 30), items='butter milk,
canned beer')
Row(Member_number='2599', Date=datetime.date(2015, 7, 30), items='specialty
chocolate, white wine, nuts/prunes, cream cheese, cake bar, yogurt, frozen
vegetables')
Row(Member_number='3132', Date=datetime.date(2015, 7, 30), items='chicken,
yogurt, waffles')
Row(Member number='3256', Date=datetime.date(2015, 7, 30), items='pork, soda')
Row(Member_number='3465', Date=datetime.date(2015, 7, 30), items='sausage, other
vegetables')
Row(Member_number='3519', Date=datetime.date(2015, 7, 30), items='sausage,
hamburger meat, other vegetables')
Row(Member_number='3600', Date=datetime.date(2015, 7, 30), items='pip fruit,
meat, frozen vegetables, bottled water')
Row(Member number='3911', Date=datetime.date(2015, 7, 30), items='sausage,
dessert')
Row(Member number='3929', Date=datetime.date(2015, 7, 30), items='specialty
cheese, yogurt')
Row(Member number='4372', Date=datetime.date(2015, 7, 30), items='meat, pork,
other vegetables, root vegetables, pip fruit, margarine')
Row(Member number='4450', Date=datetime.date(2015, 7, 30), items='UHT-milk,
condensed milk, pastry')
Row(Member number='4548', Date=datetime.date(2015, 7, 30), items='sausage,
specialty bar')
Row (Member number='4795', Date=datetime.date(2015, 7, 30), items='sausage,
sliced cheese')
Row(Member_number='1010', Date=datetime.date(2015, 7, 31), items='pip fruit,
candles, rolls/buns')
Row(Member_number='1212', Date=datetime.date(2015, 7, 31), items='root
vegetables, other vegetables')
Row(Member_number='1233', Date=datetime.date(2015, 7, 31), items='chicken, whole
milk')
Row(Member_number='1347', Date=datetime.date(2015, 7, 31), items='whole milk,
other vegetables')
Row(Member_number='1364', Date=datetime.date(2015, 7, 31), items='soda,
whipped/sour cream')
```

```
Row(Member_number='1386', Date=datetime.date(2015, 7, 31), items='pork, soda')
Row(Member number='1800', Date=datetime.date(2015, 7, 31), items='vinegar,
rolls/buns')
Row(Member_number='1905', Date=datetime.date(2015, 7, 31), items='ham, whole
milk, candy')
Row(Member_number='2433', Date=datetime.date(2015, 7, 31), items='soda, whole
Row(Member_number='2450', Date=datetime.date(2015, 7, 31), items='whipped/sour
cream, cream cheese ')
Row(Member_number='2516', Date=datetime.date(2015, 7, 31), items='light bulbs,
whole milk')
Row(Member_number='2687', Date=datetime.date(2015, 7, 31), items='sausage,
rolls/buns, sweet spreads, instant coffee, fruit/vegetable juice, long life
bakery product, shopping bags')
Row(Member_number='2756', Date=datetime.date(2015, 7, 31), items='sausage,
rolls/buns, misc. beverages, processed cheese')
Row(Member_number='2769', Date=datetime.date(2015, 7, 31), items='flower
soil/fertilizer, rolls/buns')
Row(Member_number='2937', Date=datetime.date(2015, 7, 31), items='whole milk,
other vegetables')
Row(Member_number='3292', Date=datetime.date(2015, 7, 31), items='dishes,
dessert')
Row(Member_number='3651', Date=datetime.date(2015, 7, 31), items='root
vegetables, butter milk, shopping bags, cream cheese ')
Row(Member_number='3871', Date=datetime.date(2015, 7, 31), items='bottled beer,
tropical fruit')
Row(Member number='3938', Date=datetime.date(2015, 7, 31), items='meat, other
vegetables')
Row(Member_number='4022', Date=datetime.date(2015, 7, 31), items='chicken,
yogurt')
Row(Member_number='4187', Date=datetime.date(2015, 7, 31), items='sausage,
bottled beer')
Row(Member_number='4266', Date=datetime.date(2015, 7, 31), items='canned beer,
sausage, butter, other vegetables, salty snack')
Row(Member number='4646', Date=datetime.date(2015, 7, 31), items='other
vegetables, bottled water')
Row(Member_number='4816', Date=datetime.date(2015, 7, 31), items='other
vegetables')
Row(Member_number='1306', Date=datetime.date(2015, 8, 1), items='yogurt, frozen
vegetables')
Row(Member_number='1900', Date=datetime.date(2015, 8, 1), items='other
vegetables, soda')
Row(Member_number='2004', Date=datetime.date(2015, 8, 1), items='beef, other
vegetables')
Row(Member_number='2222', Date=datetime.date(2015, 8, 1), items='yogurt, dental
Row(Member_number='2398', Date=datetime.date(2015, 8, 1), items='tropical fruit,
soda, oil')
```

```
Row(Member_number='2427', Date=datetime.date(2015, 8, 1), items='other
vegetables, butter, whipped/sour cream')
Row(Member_number='2462', Date=datetime.date(2015, 8, 1), items='pork, pastry,
candy')
Row (Member number='2532', Date=datetime.date(2015, 8, 1), items='dessert,
sugar')
Row(Member number='2715', Date=datetime.date(2015, 8, 1), items='rolls/buns,
male cosmetics')
Row(Member number='2814', Date=datetime.date(2015, 8, 1), items='pip fruit,
yogurt')
Row(Member number='2888', Date=datetime.date(2015, 8, 1), items='flour, brown
bread')
Row(Member_number='2996', Date=datetime.date(2015, 8, 1), items='domestic eggs,
other vegetables')
Row(Member_number='3255', Date=datetime.date(2015, 8, 1), items='domestic eggs,
whole milk')
Row(Member_number='3599', Date=datetime.date(2015, 8, 1), items='meat, citrus
fruit')
Row(Member_number='3914', Date=datetime.date(2015, 8, 1), items='canned beer,
cake bar')
Row(Member_number='4170', Date=datetime.date(2015, 8, 1), items='soda,
rolls/buns')
Row(Member_number='4294', Date=datetime.date(2015, 8, 1), items='other
vegetables, frozen vegetables, cling film/bags, bottled water')
Row(Member_number='4691', Date=datetime.date(2015, 8, 1), items='soda, shopping
bags, other vegetables, rolls/buns')
Row(Member number='4825', Date=datetime.date(2015, 8, 1), items='beef, root
vegetables')
Row(Member number='1477', Date=datetime.date(2015, 8, 2), items='liquor,
rolls/buns, cream cheese ')
Row(Member_number='1750', Date=datetime.date(2015, 8, 2), items='onions, pastry,
Row(Member_number='2503', Date=datetime.date(2015, 8, 2), items='beef, whole
milk')
Row(Member number='2602', Date=datetime.date(2015, 8, 2), items='sausage,
tropical fruit, margarine')
Row(Member number='2854', Date=datetime.date(2015, 8, 2), items='coffee, other
vegetables, candy, whole milk')
Row(Member_number='3297', Date=datetime.date(2015, 8, 2), items='sausage,
dessert')
Row(Member_number='3413', Date=datetime.date(2015, 8, 2), items='frankfurter,
sausage')
Row(Member_number='3752', Date=datetime.date(2015, 8, 2), items='onions, other
vegetables')
Row(Member_number='3800', Date=datetime.date(2015, 8, 2), items='newspapers,
root vegetables')
Row(Member_number='3809', Date=datetime.date(2015, 8, 2), items='bottled beer,
dog food, oil')
```

```
Row(Member_number='4109', Date=datetime.date(2015, 8, 2), items='berries,
whipped/sour cream')
Row(Member number='4270', Date=datetime.date(2015, 8, 2), items='bottled water,
shopping bags')
Row(Member number='4299', Date=datetime.date(2015, 8, 2), items='citrus fruit,
whole milk, beef, shopping bags')
Row(Member number='4459', Date=datetime.date(2015, 8, 2), items='sausage,
hamburger meat, white bread')
Row(Member_number='4699', Date=datetime.date(2015, 8, 2), items='pasta, sausage,
rolls/buns, root vegetables, flower (seeds)')
Row(Member_number='4776', Date=datetime.date(2015, 8, 2), items='sausage,
butter, cream cheese ')
Row(Member_number='4994', Date=datetime.date(2015, 8, 2), items='sausage,
fruit/vegetable juice')
Row(Member_number='1237', Date=datetime.date(2015, 8, 3), items='rolls/buns,
hard cheese')
Row(Member_number='1286', Date=datetime.date(2015, 8, 3), items='herbs, dessert,
yogurt')
Row(Member_number='1500', Date=datetime.date(2015, 8, 3), items='sausage,
pasta')
Row(Member_number='1538', Date=datetime.date(2015, 8, 3), items='sausage,
hamburger meat')
Row(Member_number='1748', Date=datetime.date(2015, 8, 3), items='pip fruit, roll
products , beverages, whole milk, canned fish, sugar')
Row(Member_number='1892', Date=datetime.date(2015, 8, 3), items='other
vegetables, specialty bar')
Row(Member_number='2141', Date=datetime.date(2015, 8, 3), items='citrus fruit,
whole milk')
Row(Member_number='2200', Date=datetime.date(2015, 8, 3), items='chicken, citrus
fruit, sugar')
Row(Member_number='2404', Date=datetime.date(2015, 8, 3), items='pork, tea')
Row(Member_number='2420', Date=datetime.date(2015, 8, 3), items='frankfurter,
shopping bags')
Row(Member_number='2542', Date=datetime.date(2015, 8, 3), items='liquor, yogurt,
napkins')
Row(Member_number='3308', Date=datetime.date(2015, 8, 3), items='UHT-milk,
butter, soda')
Row(Member_number='3310', Date=datetime.date(2015, 8, 3), items='berries,
grapes')
Row(Member_number='3449', Date=datetime.date(2015, 8, 3), items='sausage, soda')
Row(Member_number='3450', Date=datetime.date(2015, 8, 3), items='bottled water,
pork, salty snack')
Row(Member_number='3783', Date=datetime.date(2015, 8, 3), items='detergent, ice
cream, hamburger meat, soda, sugar')
Row(Member_number='3931', Date=datetime.date(2015, 8, 3), items='soda, bottled
beer, brown bread')
Row(Member_number='4238', Date=datetime.date(2015, 8, 3), items='frankfurter,
pip fruit, hygiene articles')
```

```
Row (Member number='4286', Date=datetime.date(2015, 8, 3), items='brown bread,
whole milk, spread cheese, butter, fruit/vegetable juice')
Row(Member_number='4302', Date=datetime.date(2015, 8, 3), items='tropical fruit,
cream cheese ')
Row (Member number='4611', Date=datetime.date(2015, 8, 3), items='other
vegetables, cooking chocolate')
Row(Member number='1067', Date=datetime.date(2015, 8, 4), items='hamburger meat,
pork')
Row(Member number='1514', Date=datetime.date(2015, 8, 4), items='whipped/sour
cream, citrus fruit')
Row(Member_number='2193', Date=datetime.date(2015, 8, 4), items='root
vegetables, cream cheese ')
Row(Member number='2207', Date=datetime.date(2015, 8, 4), items='frankfurter,
cream cheese ')
Row(Member number='2321', Date=datetime.date(2015, 8, 4), items='sausage, whole
milk')
Row(Member_number='2454', Date=datetime.date(2015, 8, 4), items='meat')
Row(Member number='2579', Date=datetime.date(2015, 8, 4), items='whole milk,
white wine')
Row(Member number='2625', Date=datetime.date(2015, 8, 4), items='margarine,
sausage, pork, citrus fruit, yogurt, frozen meals, other vegetables')
Row(Member_number='2702', Date=datetime.date(2015, 8, 4), items='tropical fruit,
bottled water, whipped/sour cream')
Row(Member_number='2745', Date=datetime.date(2015, 8, 4), items='tropical fruit,
rolls/buns')
Row(Member number='2918', Date=datetime.date(2015, 8, 4), items='ham, other
vegetables, napkins')
Row(Member number='3313', Date=datetime.date(2015, 8, 4), items='root
vegetables, tropical fruit')
Row(Member_number='4102', Date=datetime.date(2015, 8, 4), items='pip fruit,
artif. sweetener, hygiene articles')
Row(Member_number='4303', Date=datetime.date(2015, 8, 4), items='canned beer,
specialty chocolate, other vegetables, cream cheese ')
Row(Member_number='4330', Date=datetime.date(2015, 8, 4), items='misc.
beverages, pork, domestic eggs, sparkling wine, whipped/sour cream, semi-
finished bread')
Row(Member number='4495', Date=datetime.date(2015, 8, 4), items='frankfurter,
rubbing alcohol, sparkling wine, other vegetables, domestic eggs, white bread,
yogurt, soda')
Row(Member_number='4596', Date=datetime.date(2015, 8, 4), items='hamburger meat,
whole milk')
Row(Member number='4652', Date=datetime.date(2015, 8, 4), items='butter milk,
zwieback, pot plants')
Row(Member number='4729', Date=datetime.date(2015, 8, 4), items='salt, frozen
vegetables')
Row(Member_number='4807', Date=datetime.date(2015, 8, 4), items='tropical fruit,
waffles')
Row(Member number='4952', Date=datetime.date(2015, 8, 4), items='whipped/sour
```

```
cream, whole milk')
Row(Member_number='1346', Date=datetime.date(2015, 8, 5), items='pip fruit,
domestic eggs')
Row(Member_number='1692', Date=datetime.date(2015, 8, 5), items='citrus fruit,
chicken')
Row(Member_number='1938', Date=datetime.date(2015, 8, 5), items='pork,
rolls/buns')
Row(Member_number='2047', Date=datetime.date(2015, 8, 5), items='meat, canned
beer, soda')
Row(Member_number='2231', Date=datetime.date(2015, 8, 5), items='berries,
margarine')
Row(Member_number='2293', Date=datetime.date(2015, 8, 5), items='rolls/buns,
chicken')
Row(Member number='2597', Date=datetime.date(2015, 8, 5), items='sausage,
napkins')
Row(Member number='2659', Date=datetime.date(2015, 8, 5), items='yogurt,
sausage, domestic eggs, other vegetables, nut snack, shopping bags')
Row(Member number='2703', Date=datetime.date(2015, 8, 5), items='canned beer,
dishes')
Row(Member number='2884', Date=datetime.date(2015, 8, 5), items='UHT-milk, cream
cheese ')
Row(Member number='2909', Date=datetime.date(2015, 8, 5), items='sausage,
coffee, female sanitary products')
Row(Member_number='3198', Date=datetime.date(2015, 8, 5), items='citrus fruit,
white bread')
Row(Member_number='3204', Date=datetime.date(2015, 8, 5), items='rolls/buns,
shopping bags')
Row(Member_number='3214', Date=datetime.date(2015, 8, 5), items='bottled beer,
vogurt')
Row(Member_number='3574', Date=datetime.date(2015, 8, 5), items='pip fruit,
sliced cheese, fruit/vegetable juice')
Row(Member_number='3575', Date=datetime.date(2015, 8, 5), items='whole milk,
butter')
Row(Member_number='3976', Date=datetime.date(2015, 8, 5), items='packaged
fruit/vegetables, onions')
Row(Member_number='4048', Date=datetime.date(2015, 8, 5), items='other
vegetables, rolls/buns, domestic eggs')
Row(Member_number='4225', Date=datetime.date(2015, 8, 5), items='hard cheese,
bottled water, root vegetables, brown bread')
Row(Member_number='4321', Date=datetime.date(2015, 8, 5), items='curd,
frankfurter, white bread, pip fruit, waffles')
Row(Member_number='4351', Date=datetime.date(2015, 8, 5), items='cooking
chocolate, red/blush wine, cleaner')
Row(Member_number='4362', Date=datetime.date(2015, 8, 5), items='ham, curd')
Row(Member_number='4387', Date=datetime.date(2015, 8, 5), items='whole milk,
Row(Member_number='4403', Date=datetime.date(2015, 8, 5), items='canned beer,
yogurt')
```

```
Row(Member_number='4501', Date=datetime.date(2015, 8, 5), items='other
vegetables, bottled water, shopping bags')
Row(Member_number='4688', Date=datetime.date(2015, 8, 5), items='chicken,
rolls/buns')
Row(Member number='4975', Date=datetime.date(2015, 8, 5), items='tropical fruit,
yogurt')
Row(Member number='1073', Date=datetime.date(2015, 8, 6), items='pip fruit,
curd, prosecco')
Row(Member number='1120', Date=datetime.date(2015, 8, 6), items='meat, other
vegetables')
Row(Member_number='1327', Date=datetime.date(2015, 8, 6), items='bottled beer,
instant coffee')
Row(Member_number='1629', Date=datetime.date(2015, 8, 6), items='frozen dessert,
tropical fruit')
Row(Member_number='1734', Date=datetime.date(2015, 8, 6), items='sausage,
tropical fruit, pork, rolls/buns')
Row(Member_number='1874', Date=datetime.date(2015, 8, 6), items='mustard, sugar,
baking powder')
Row(Member_number='1962', Date=datetime.date(2015, 8, 6), items='tropical fruit,
citrus fruit')
Row(Member number='2316', Date=datetime.date(2015, 8, 6), items='canned beer,
tropical fruit')
Row(Member_number='2374', Date=datetime.date(2015, 8, 6), items='frankfurter,
tropical fruit')
Row(Member_number='2440', Date=datetime.date(2015, 8, 6), items='pork, frozen
meals')
Row(Member_number='2448', Date=datetime.date(2015, 8, 6), items='other
vegetables, tropical fruit, onions, cream cheese, root vegetables, yogurt')
Row(Member_number='2550', Date=datetime.date(2015, 8, 6), items='butter milk,
snack products, packaged fruit/vegetables')
Row(Member_number='2718', Date=datetime.date(2015, 8, 6), items='sausage,
chicken')
Row(Member_number='2852', Date=datetime.date(2015, 8, 6), items='citrus fruit,
whipped/sour cream')
Row(Member number='2936', Date=datetime.date(2015, 8, 6), items='ham, domestic
eggs')
Row(Member number='3062', Date=datetime.date(2015, 8, 6), items='beef, pip
fruit, bottled water, margarine, hygiene articles')
Row(Member_number='3072', Date=datetime.date(2015, 8, 6), items='beef, ham')
Row(Member_number='3357', Date=datetime.date(2015, 8, 6), items='pip fruit,
newspapers')
Row(Member_number='3587', Date=datetime.date(2015, 8, 6), items='sausage, hair
spray, canned beer')
Row(Member number='3972', Date=datetime.date(2015, 8, 6), items='canned beer,
bottled water')
Row(Member_number='4395', Date=datetime.date(2015, 8, 6), items='beef, misc.
beverages')
Row(Member number='4500', Date=datetime.date(2015, 8, 6), items='whole milk,
```

```
flour')
Row(Member_number='4526', Date=datetime.date(2015, 8, 6), items='citrus fruit,
canned beer')
Row(Member_number='4747', Date=datetime.date(2015, 8, 6), items='other
vegetables, cream cheese, tropical fruit, root vegetables, specialty
chocolate')
Row (Member number='1426', Date=datetime.date(2015, 8, 7), items='potato
products, pip fruit')
Row(Member number='1450', Date=datetime.date(2015, 8, 7), items='hamburger meat,
bottled beer, coffee, instant coffee, yogurt')
Row(Member_number='1582', Date=datetime.date(2015, 8, 7), items='sausage,
margarine')
Row(Member number='1754', Date=datetime.date(2015, 8, 7), items='canned beer,
curd, coffee, flour')
Row(Member_number='1777', Date=datetime.date(2015, 8, 7), items='finished
products, butter milk, fruit/vegetable juice, brown bread, pot plants')
Row(Member_number='1993', Date=datetime.date(2015, 8, 7), items='tropical fruit,
pip fruit, root vegetables, pet care')
Row(Member_number='2029', Date=datetime.date(2015, 8, 7), items='frankfurter,
rolls/buns')
Row(Member_number='2357', Date=datetime.date(2015, 8, 7), items='soda, bottled
beer, baking powder')
Row(Member_number='2362', Date=datetime.date(2015, 8, 7), items='canned beer,
bottled beer')
Row(Member_number='2449', Date=datetime.date(2015, 8, 7), items='curd,
chocolate')
Row(Member number='2511', Date=datetime.date(2015, 8, 7), items='other
vegetables, bottled water')
Row(Member_number='2906', Date=datetime.date(2015, 8, 7), items='chicken,
dessert')
Row(Member_number='3195', Date=datetime.date(2015, 8, 7), items='cooking
chocolate, hygiene articles')
Row(Member_number='3260', Date=datetime.date(2015, 8, 7), items='meat, onions,
whole milk')
Row(Member number='3262', Date=datetime.date(2015, 8, 7), items='whole milk, pip
fruit, tropical fruit, soda')
Row (Member number='3468', Date=datetime.date(2015, 8, 7), items='pastry,
vinegar, salty snack')
Row(Member_number='3509', Date=datetime.date(2015, 8, 7), items='soda, pip
fruit, hygiene articles, oil')
Row(Member_number='3711', Date=datetime.date(2015, 8, 7), items='whole milk,
berries')
Row(Member_number='4028', Date=datetime.date(2015, 8, 7), items='other
vegetables, frankfurter, napkins, pastry')
Row(Member_number='4038', Date=datetime.date(2015, 8, 7), items='citrus fruit,
frankfurter, salty snack, newspapers, white wine')
Row(Member_number='4207', Date=datetime.date(2015, 8, 7), items='rolls/buns, pet
care')
```

```
Row(Member_number='4564', Date=datetime.date(2015, 8, 7), items='rolls/buns,
sausage, whole milk, nuts/prunes')
Row(Member_number='4623', Date=datetime.date(2015, 8, 7), items='sugar,
whipped/sour cream')
Row(Member number='4726', Date=datetime.date(2015, 8, 7), items='other
vegetables, chicken')
Row(Member number='4932', Date=datetime.date(2015, 8, 7), items='bottled beer,
fruit/vegetable juice')
Row(Member number='1191', Date=datetime.date(2015, 8, 8), items='hamburger meat,
citrus fruit, specialty chocolate, other vegetables')
Row(Member_number='1200', Date=datetime.date(2015, 8, 8), items='citrus fruit,
root vegetables')
Row(Member_number='1593', Date=datetime.date(2015, 8, 8), items='sausage,
rolls/buns')
Row(Member_number='1613', Date=datetime.date(2015, 8, 8), items='soda, cream
Row(Member_number='1746', Date=datetime.date(2015, 8, 8), items='pip fruit,
bottled water')
Row(Member_number='2176', Date=datetime.date(2015, 8, 8), items='frozen meals,
onions')
Row(Member_number='2415', Date=datetime.date(2015, 8, 8), items='newspapers,
curd, turkey, misc. beverages, bottled beer')
Row(Member_number='2760', Date=datetime.date(2015, 8, 8), items='frankfurter,
tropical fruit')
Row(Member_number='2862', Date=datetime.date(2015, 8, 8), items='misc.
beverages, long life bakery product')
Row(Member_number='2903', Date=datetime.date(2015, 8, 8), items='sausage,
frankfurter, citrus fruit, bottled beer, soda, butter, oil')
Row(Member_number='3207', Date=datetime.date(2015, 8, 8), items='pip fruit,
tropical fruit, frozen potato products, sweet spreads, chocolate, napkins,
candles, seasonal products')
Row(Member_number='3646', Date=datetime.date(2015, 8, 8), items='soda, hard
cheese')
Row(Member_number='3691', Date=datetime.date(2015, 8, 8), items='frankfurter,
bottled water, shopping bags, finished products, yogurt, newspapers, tropical
fruit, liquor (appetizer), dog food')
Row(Member number='3709', Date=datetime.date(2015, 8, 8), items='berries, pork,
waffles, herbs, yogurt, specialty cheese, fruit/vegetable juice, long life
bakery product')
Row(Member_number='3818', Date=datetime.date(2015, 8, 8), items='meat, sugar,
margarine, cat food')
Row(Member number='4042', Date=datetime.date(2015, 8, 8), items='meat, sausage,
salty snack, white wine, frozen vegetables, beverages')
Row(Member number='4456', Date=datetime.date(2015, 8, 8), items='sugar, coffee,
cream cheese , bottled water')
Row(Member_number='4499', Date=datetime.date(2015, 8, 8), items='UHT-milk,
tropical fruit')
Row(Member_number='4643', Date=datetime.date(2015, 8, 8), items='tidbits,
```

```
dessert, cat food')
Row(Member_number='4776', Date=datetime.date(2015, 8, 8), items='citrus fruit,
other vegetables, pip fruit, pork, soda, yogurt, herbs, red/blush wine')
Row(Member_number='4828', Date=datetime.date(2015, 8, 8), items='sparkling wine,
whole milk, dessert, salt')
Row(Member_number='4970', Date=datetime.date(2015, 8, 8), items='pet care,
pastry')
Row(Member_number='1035', Date=datetime.date(2015, 8, 9), items='whole milk,
newspapers')
Row(Member_number='1094', Date=datetime.date(2015, 8, 9), items='sausage, whole
milk')
Row(Member_number='1220', Date=datetime.date(2015, 8, 9), items='pastry,
waffles')
Row(Member_number='1303', Date=datetime.date(2015, 8, 9), items='pasta,
rolls/buns, margarine, canned fish, yogurt')
Row(Member number='1356', Date=datetime.date(2015, 8, 9), items='hard cheese,
soda')
Row(Member_number='1361', Date=datetime.date(2015, 8, 9), items='whole milk,
beef, rolls/buns, mustard')
Row(Member number='1836', Date=datetime.date(2015, 8, 9), items='oil, herbs')
Row(Member_number='1988', Date=datetime.date(2015, 8, 9), items='bottled beer,
grapes, other vegetables, bottled water')
Row(Member_number='2019', Date=datetime.date(2015, 8, 9), items='sausage, other
vegetables')
Row(Member_number='2348', Date=datetime.date(2015, 8, 9), items='newspapers,
frozen vegetables, long life bakery product')
Row(Member_number='2364', Date=datetime.date(2015, 8, 9), items='chicken,
coffee')
Row(Member number='2369', Date=datetime.date(2015, 8, 9), items='frankfurter,
Row(Member number='2426', Date=datetime.date(2015, 8, 9), items='bottled water,
tropical fruit, whipped/sour cream')
Row(Member_number='2446', Date=datetime.date(2015, 8, 9), items='rolls/buns,
pork')
Row(Member number='2753', Date=datetime.date(2015, 8, 9), items='nuts/prunes,
cream cheese ')
Row(Member number='2810', Date=datetime.date(2015, 8, 9), items='butter milk,
meat, curd, soda, long life bakery product')
Row(Member_number='3483', Date=datetime.date(2015, 8, 9), items='berries, hard
cheese, dishes')
Row(Member_number='3497', Date=datetime.date(2015, 8, 9), items='brown bread,
UHT-milk, beef, red/blush wine, rolls/buns, pickled vegetables')
Row(Member_number='3709', Date=datetime.date(2015, 8, 9), items='frankfurter,
pork, pastry, canned vegetables')
Row(Member_number='3759', Date=datetime.date(2015, 8, 9), items='citrus fruit,
whole milk')
Row(Member_number='4289', Date=datetime.date(2015, 8, 9), items='curd, liquor
(appetizer)')
```

```
Row(Member_number='4386', Date=datetime.date(2015, 8, 9), items='citrus fruit,
pip fruit')
Row(Member number='4741', Date=datetime.date(2015, 8, 9), items='beef, finished
products')
Row(Member number='4761', Date=datetime.date(2015, 8, 9), items='sausage,
newspapers, soda')
Row(Member number='1116', Date=datetime.date(2015, 8, 10), items='newspapers,
white bread, rolls/buns, beverages')
Row(Member_number='1245', Date=datetime.date(2015, 8, 10), items='tropical
fruit, rolls/buns')
Row(Member_number='1625', Date=datetime.date(2015, 8, 10), items='other
vegetables, packaged fruit/vegetables')
Row(Member_number='2164', Date=datetime.date(2015, 8, 10), items='misc.
beverages, bottled water, other vegetables, coffee')
Row(Member_number='2252', Date=datetime.date(2015, 8, 10), items='whole milk,
chicken, curd, rolls/buns, cereals, bottled water')
Row(Member_number='3153', Date=datetime.date(2015, 8, 10), items='frankfurter,
other vegetables')
Row(Member_number='3339', Date=datetime.date(2015, 8, 10), items='pork, canned
beer, whole milk, rolls/buns')
Row(Member_number='3640', Date=datetime.date(2015, 8, 10), items='bottled water,
pastry')
Row(Member_number='3716', Date=datetime.date(2015, 8, 10), items='sausage, cake
bar')
Row(Member_number='4172', Date=datetime.date(2015, 8, 10), items='dental care,
soda')
Row(Member_number='4289', Date=datetime.date(2015, 8, 10), items='pork, chicken,
other vegetables, curd, hard cheese')
Row(Member_number='4589', Date=datetime.date(2015, 8, 10), items='sausage, white
wine, whole milk, beverages, semi-finished bread, napkins')
Row(Member_number='4648', Date=datetime.date(2015, 8, 10), items='whole milk,
yogurt')
Row(Member_number='4686', Date=datetime.date(2015, 8, 10), items='sausage, other
vegetables')
Row(Member number='1289', Date=datetime.date(2015, 8, 11), items='other
vegetables, salty snack, brown bread, canned beer')
Row(Member_number='1410', Date=datetime.date(2015, 8, 11), items='UHT-milk,
soda, salty snack')
Row(Member_number='1661', Date=datetime.date(2015, 8, 11), items='pip fruit,
white wine, shopping bags')
Row(Member_number='1866', Date=datetime.date(2015, 8, 11), items='pet care, pip
fruit, candy')
Row(Member_number='2055', Date=datetime.date(2015, 8, 11), items='other
vegetables, sugar')
Row(Member_number='2063', Date=datetime.date(2015, 8, 11), items='frankfurter,
sliced cheese, sugar')
Row(Member_number='2534', Date=datetime.date(2015, 8, 11), items='pork,
specialty cheese')
```

```
Row(Member number='2643', Date=datetime.date(2015, 8, 11), items='hygiene
articles, dessert')
Row(Member number='2648', Date=datetime.date(2015, 8, 11), items='beef, pork,
margarine, fruit/vegetable juice')
Row(Member number='2855', Date=datetime.date(2015, 8, 11), items='sausage,
soda')
Row(Member number='2926', Date=datetime.date(2015, 8, 11), items='soda, whole
milk, oil')
Row(Member number='3035', Date=datetime.date(2015, 8, 11), items='sausage,
pastry, whole milk')
Row(Member_number='3161', Date=datetime.date(2015, 8, 11),
items='fruit/vegetable juice, other vegetables')
Row(Member number='3352', Date=datetime.date(2015, 8, 11), items='soda, misc.
beverages')
Row(Member_number='3486', Date=datetime.date(2015, 8, 11), items='canned beer,
citrus fruit')
Row(Member_number='3766', Date=datetime.date(2015, 8, 11), items='pork, shopping
Row(Member_number='4319', Date=datetime.date(2015, 8, 11), items='sausage,
fruit/vegetable juice, bottled water')
Row(Member_number='4398', Date=datetime.date(2015, 8, 11), items='oil, soda')
Row(Member_number='4512', Date=datetime.date(2015, 8, 11), items='other
vegetables, newspapers')
Row(Member_number='4588', Date=datetime.date(2015, 8, 11), items='butter,
coffee, pastry, bottled beer')
Row(Member number='4702', Date=datetime.date(2015, 8, 11), items='pot plants,
grapes, brown bread, other vegetables, kitchen towels')
Row(Member number='4753', Date=datetime.date(2015, 8, 11), items='other
vegetables, finished products, beef, whole milk, chocolate, sugar')
Row(Member_number='1153', Date=datetime.date(2015, 8, 12), items='whole milk,
grapes')
Row(Member_number='1420', Date=datetime.date(2015, 8, 12), items='curd,
rolls/buns')
Row(Member_number='1616', Date=datetime.date(2015, 8, 12), items='whole milk,
pip fruit')
Row(Member_number='1679', Date=datetime.date(2015, 8, 12), items='whole milk,
rolls/buns, salty snack')
Row(Member_number='1723', Date=datetime.date(2015, 8, 12), items='tropical
fruit, margarine')
Row(Member_number='1946', Date=datetime.date(2015, 8, 12), items='pastry,
candy')
Row(Member_number='2006', Date=datetime.date(2015, 8, 12), items='frankfurter,
coffee')
Row(Member number='2167', Date=datetime.date(2015, 8, 12), items='whole milk,
newspapers')
Row(Member number='2327', Date=datetime.date(2015, 8, 12), items='bottled beer,
butter')
Row(Member number='2338', Date=datetime.date(2015, 8, 12), items='photo/film,
```

```
canned beer, salty snack, curd, whole milk, hygiene articles')
Row(Member_number='2659', Date=datetime.date(2015, 8, 12), items='pip fruit,
brown bread')
Row(Member_number='2969', Date=datetime.date(2015, 8, 12), items='packaged
fruit/vegetables, waffles')
Row(Member_number='3076', Date=datetime.date(2015, 8, 12), items='rolls/buns,
butter milk')
Row(Member_number='3178', Date=datetime.date(2015, 8, 12), items='dessert, whole
milk, waffles')
Row(Member_number='3245', Date=datetime.date(2015, 8, 12), items='whole milk,
curd')
Row(Member_number='3262', Date=datetime.date(2015, 8, 12), items='frankfurter,
rolls/buns, bottled beer, other vegetables, yogurt, soups, UHT-milk')
Row(Member_number='3339', Date=datetime.date(2015, 8, 12), items='napkins, whole
milk, butter milk')
Row(Member number='3744', Date=datetime.date(2015, 8, 12), items='rolls/buns,
tropical fruit, salt, butter, whole milk, canned vegetables, domestic eggs')
Row(Member number='4291', Date=datetime.date(2015, 8, 12), items='sausage, root
vegetables, soda, chocolate marshmallow')
Row(Member_number='4589', Date=datetime.date(2015, 8, 12), items='sausage,
beverages')
Row(Member_number='4592', Date=datetime.date(2015, 8, 12), items='citrus fruit,
pork, canned fish, oil')
Row(Member_number='4842', Date=datetime.date(2015, 8, 12), items='chicken,
yogurt')
Row(Member_number='4903', Date=datetime.date(2015, 8, 12), items='sausage,
rolls/buns, curd, salty snack, whipped/sour cream, hard cheese')
Row(Member_number='1099', Date=datetime.date(2015, 8, 13), items='spread cheese,
Row(Member_number='1144', Date=datetime.date(2015, 8, 13), items='canned beer,
fish')
Row(Member_number='1233', Date=datetime.date(2015, 8, 13), items='butter milk,
other vegetables')
Row(Member_number='1439', Date=datetime.date(2015, 8, 13), items='frankfurter,
whole milk')
Row(Member number='1534', Date=datetime.date(2015, 8, 13), items='pastry,
rolls/buns, sliced cheese, tropical fruit, liquor, hygiene articles, dental
care, napkins')
Row(Member_number='1581', Date=datetime.date(2015, 8, 13), items='grapes,
onions')
Row(Member_number='1656', Date=datetime.date(2015, 8, 13), items='hard cheese,
bottled beer, whole milk, liquor (appetizer)')
Row(Member_number='2106', Date=datetime.date(2015, 8, 13), items='bottled water,
other vegetables')
Row(Member_number='2471', Date=datetime.date(2015, 8, 13), items='rolls/buns,
frozen vegetables, hamburger meat, pork')
Row(Member_number='2543', Date=datetime.date(2015, 8, 13), items='rolls/buns,
cream cheese , brown bread')
```

```
Row(Member number='3002', Date=datetime.date(2015, 8, 13), items='citrus fruit,
frozen meals, coffee, seasonal products, yogurt, soups')
Row(Member_number='3141', Date=datetime.date(2015, 8, 13), items='waffles, salty
snack, hard cheese')
Row(Member number='3365', Date=datetime.date(2015, 8, 13), items='chicken, cat
food')
Row(Member number='3458', Date=datetime.date(2015, 8, 13), items='sausage, whole
milk')
Row(Member number='3562', Date=datetime.date(2015, 8, 13), items='zwieback,
sausage, whole milk, soda, canned beer, hygiene articles')
Row(Member number='3615', Date=datetime.date(2015, 8, 13), items='whole milk,
spread cheese, popcorn')
Row(Member_number='3674', Date=datetime.date(2015, 8, 13), items='canned beer,
yogurt, bottled water')
Row(Member_number='3684', Date=datetime.date(2015, 8, 13), items='citrus fruit,
whole milk')
Row(Member_number='4017', Date=datetime.date(2015, 8, 13), items='pork')
Row(Member_number='4113', Date=datetime.date(2015, 8, 13), items='frankfurter,
rolls/buns')
Row(Member number='4129', Date=datetime.date(2015, 8, 13), items='chicken,
cereals')
Row(Member number='4366', Date=datetime.date(2015, 8, 13), items='soda, semi-
finished bread')
Row(Member_number='4392', Date=datetime.date(2015, 8, 13), items='instant
coffee, chewing gum')
Row(Member_number='4552', Date=datetime.date(2015, 8, 13), items='other
vegetables, domestic eggs, bottled beer')
Row(Member_number='4605', Date=datetime.date(2015, 8, 13), items='bottled water,
Row(Member_number='1087', Date=datetime.date(2015, 8, 14), items='herbs, pot
plants, cake bar')
Row(Member_number='1540', Date=datetime.date(2015, 8, 14), items='whole milk,
beef, beverages, yogurt')
Row(Member_number='1631', Date=datetime.date(2015, 8, 14), items='tropical
fruit, herbs')
Row(Member_number='1706', Date=datetime.date(2015, 8, 14), items='canned beer,
brandy, waffles, cat food, dishes, light bulbs')
Row(Member_number='2428', Date=datetime.date(2015, 8, 14), items='hard cheese,
white wine')
Row(Member_number='2480', Date=datetime.date(2015, 8, 14), items='pork, whole
milk')
Row(Member_number='2504', Date=datetime.date(2015, 8, 14), items='curd, tropical
Row(Member_number='2706', Date=datetime.date(2015, 8, 14), items='sausage, whole
milk, cake bar')
Row(Member_number='2825', Date=datetime.date(2015, 8, 14), items='frankfurter,
whole milk')
Row(Member number='2833', Date=datetime.date(2015, 8, 14), items='citrus fruit,
```

```
beef, whipped/sour cream, other vegetables')
Row(Member_number='2836', Date=datetime.date(2015, 8, 14), items='UHT-milk,
butter milk, napkins')
Row(Member_number='2895', Date=datetime.date(2015, 8, 14), items='long life
bakery product, hamburger meat, whole milk')
Row(Member_number='3009', Date=datetime.date(2015, 8, 14), items='sausage,
tropical fruit')
Row(Member_number='3010', Date=datetime.date(2015, 8, 14),
items='fruit/vegetable juice, root vegetables')
Row(Member_number='3353', Date=datetime.date(2015, 8, 14), items='other
vegetables, sausage, rolls/buns, domestic eggs, waffles, whole milk')
Row(Member number='3844', Date=datetime.date(2015, 8, 14), items='citrus fruit,
curd')
Row(Member_number='4072', Date=datetime.date(2015, 8, 14), items='chicken,
Row(Member number='4254', Date=datetime.date(2015, 8, 14), items='yogurt, ham')
Row(Member_number='4299', Date=datetime.date(2015, 8, 14), items='whole milk,
rolls/buns')
Row(Member_number='1085', Date=datetime.date(2015, 8, 15), items='root
vegetables, citrus fruit')
Row(Member_number='1437', Date=datetime.date(2015, 8, 15), items='salty snack,
coffee')
Row(Member_number='1590', Date=datetime.date(2015, 8, 15), items='coffee, whole
milk')
Row(Member_number='1646', Date=datetime.date(2015, 8, 15), items='butter milk,
sliced cheese, rolls/buns')
Row(Member number='1728', Date=datetime.date(2015, 8, 15), items='soda, bottled
water, ice cream')
Row(Member_number='1792', Date=datetime.date(2015, 8, 15), items='tropical
fruit, newspapers, beef, domestic eggs, detergent, frozen vegetables, grapes,
processed cheese')
Row(Member_number='1796', Date=datetime.date(2015, 8, 15), items='sausage, other
vegetables')
Row(Member_number='1928', Date=datetime.date(2015, 8, 15), items='citrus fruit,
bottled water, pastry')
Row(Member_number='1936', Date=datetime.date(2015, 8, 15), items='rolls/buns,
berries, meat spreads')
Row(Member_number='2016', Date=datetime.date(2015, 8, 15), items='sugar,
berries')
Row(Member_number='2084', Date=datetime.date(2015, 8, 15), items='root
vegetables')
Row(Member_number='2188', Date=datetime.date(2015, 8, 15),
items='fruit/vegetable juice, salty snack')
Row(Member number='2337', Date=datetime.date(2015, 8, 15), items='hamburger
meat, hard cheese')
Row(Member_number='2597', Date=datetime.date(2015, 8, 15), items='berries, soda,
bottled beer')
Row(Member number='2676', Date=datetime.date(2015, 8, 15), items='rolls/buns,
```

```
chicken, whipped/sour cream, canned beer, baking powder')
Row(Member_number='2846', Date=datetime.date(2015, 8, 15), items='whipped/sour
cream, instant coffee')
Row(Member_number='3056', Date=datetime.date(2015, 8, 15), items='liver loaf,
other vegetables')
Row(Member_number='3497', Date=datetime.date(2015, 8, 15), items='pork, white
Row(Member_number='3508', Date=datetime.date(2015, 8, 15), items='whole milk,
hygiene articles')
Row(Member_number='4030', Date=datetime.date(2015, 8, 15), items='herbs,
seasonal products, pastry, yogurt')
Row(Member number='4255', Date=datetime.date(2015, 8, 15), items='newspapers,
dishes')
Row(Member_number='4463', Date=datetime.date(2015, 8, 15), items='decalcifier,
root vegetables')
Row(Member_number='4483', Date=datetime.date(2015, 8, 15), items='canned
vegetables, chocolate marshmallow')
Row(Member_number='4507', Date=datetime.date(2015, 8, 15), items='tropical
fruit, citrus fruit')
Row(Member number='4657', Date=datetime.date(2015, 8, 15), items='pork, bottled
beer, beef, other vegetables, chocolate, snack products, frozen vegetables')
Row(Member_number='4738', Date=datetime.date(2015, 8, 15), items='other
vegetables, whole milk')
Row(Member_number='4790', Date=datetime.date(2015, 8, 15), items='pasta,
newspapers')
Row(Member_number='4810', Date=datetime.date(2015, 8, 15), items='chicken, dog
food')
Row(Member_number='4960', Date=datetime.date(2015, 8, 15), items='other
vegetables, salty snack')
Row(Member_number='1782', Date=datetime.date(2015, 8, 16), items='soda, yogurt')
Row(Member_number='1839', Date=datetime.date(2015, 8, 16), items='pastry,
waffles, napkins')
Row(Member_number='1971', Date=datetime.date(2015, 8, 16), items='sausage,
fruit/vegetable juice')
Row(Member number='2045', Date=datetime.date(2015, 8, 16), items='pork, sweet
spreads')
Row(Member number='2070', Date=datetime.date(2015, 8, 16), items='ice cream, pip
Row(Member_number='2113', Date=datetime.date(2015, 8, 16), items='UHT-milk,
Row(Member_number='2187', Date=datetime.date(2015, 8, 16), items='whole milk,
sugar')
Row(Member_number='2298', Date=datetime.date(2015, 8, 16), items='root
vegetables, fruit/vegetable juice')
Row(Member_number='2902', Date=datetime.date(2015, 8, 16), items='cat food,
whole milk, chocolate')
Row(Member_number='3095', Date=datetime.date(2015, 8, 16), items='bottled water,
specialty bar, curd')
```

```
Row(Member_number='3144', Date=datetime.date(2015, 8, 16), items='tropical
fruit, yogurt, curd, margarine')
Row(Member number='3234', Date=datetime.date(2015, 8, 16), items='citrus fruit,
tropical fruit')
Row(Member number='3328', Date=datetime.date(2015, 8, 16), items='whole milk,
butter milk, domestic eggs')
Row(Member number='3402', Date=datetime.date(2015, 8, 16), items='whole milk,
sauces')
Row(Member number='3424', Date=datetime.date(2015, 8, 16), items='canned beer,
shopping bags, rolls/buns, yogurt, butter milk')
Row(Member_number='4392', Date=datetime.date(2015, 8, 16), items='other
vegetables, margarine')
Row(Member_number='4616', Date=datetime.date(2015, 8, 16), items='canned beer,
semi-finished bread')
Row(Member_number='4782', Date=datetime.date(2015, 8, 16), items='rolls/buns,
domestic eggs')
Row(Member_number='1176', Date=datetime.date(2015, 8, 17), items='pastry, other
vegetables')
Row(Member_number='1304', Date=datetime.date(2015, 8, 17), items='frankfurter,
whole milk')
Row(Member_number='1501', Date=datetime.date(2015, 8, 17), items='bottled water,
napkins, fruit/vegetable juice, hard cheese')
Row(Member_number='1503', Date=datetime.date(2015, 8, 17), items='bottled beer,
whole milk')
Row(Member_number='1731', Date=datetime.date(2015, 8, 17), items='whole milk')
Row(Member_number='2448', Date=datetime.date(2015, 8, 17), items='bottled water,
rolls/buns')
Row(Member_number='2632', Date=datetime.date(2015, 8, 17), items='citrus fruit,
frozen meals')
Row(Member_number='2654', Date=datetime.date(2015, 8, 17), items='frankfurter,
curd, coffee')
Row(Member_number='2693', Date=datetime.date(2015, 8, 17), items='frankfurter,
yogurt')
Row(Member_number='2805', Date=datetime.date(2015, 8, 17), items='rolls/buns,
canned beer')
Row(Member_number='3061', Date=datetime.date(2015, 8, 17), items='sausage, whole
Row(Member_number='3296', Date=datetime.date(2015, 8, 17), items='soda,
zwieback')
Row(Member_number='3338', Date=datetime.date(2015, 8, 17), items='soda, snack
products, whole milk')
Row(Member_number='3389', Date=datetime.date(2015, 8, 17), items='berries, cream
cheese , other vegetables')
Row(Member_number='3579', Date=datetime.date(2015, 8, 17), items='potato
products, other vegetables')
Row(Member_number='3600', Date=datetime.date(2015, 8, 17), items='canned beer,
other vegetables')
Row(Member_number='3746', Date=datetime.date(2015, 8, 17), items='grapes,
```

```
butter, newspapers, pip fruit')
Row(Member_number='3801', Date=datetime.date(2015, 8, 17), items='salt, tropical
fruit, newspapers')
Row(Member_number='4079', Date=datetime.date(2015, 8, 17), items='frankfurter,
whole milk')
Row(Member_number='4556', Date=datetime.date(2015, 8, 17), items='hard cheese,
butter milk, long life bakery product')
Row(Member_number='4633', Date=datetime.date(2015, 8, 17), items='chicken, white
Row(Member_number='4836', Date=datetime.date(2015, 8, 17), items='pork, ham,
specialty chocolate, whole milk, long life bakery product, detergent')
Row(Member_number='1319', Date=datetime.date(2015, 8, 18), items='pip fruit,
grapes, pastry')
Row(Member_number='1604', Date=datetime.date(2015, 8, 18), items='sausage,
margarine')
Row(Member_number='1685', Date=datetime.date(2015, 8, 18), items='other
vegetables, whole milk')
Row(Member_number='1913', Date=datetime.date(2015, 8, 18), items='finished
products, pip fruit, curd, pork, whipped/sour cream, whole milk')
Row(Member_number='1919', Date=datetime.date(2015, 8, 18), items='frozen potato
products, soda')
Row(Member number='2324', Date=datetime.date(2015, 8, 18), items='chicken,
canned beer')
Row(Member number='2366', Date=datetime.date(2015, 8, 18), items='UHT-milk,
yogurt, pastry')
Row(Member_number='2624', Date=datetime.date(2015, 8, 18), items='ice cream,
whipped/sour cream')
Row(Member_number='2711', Date=datetime.date(2015, 8, 18), items='yogurt,
bottled beer')
Row(Member_number='2713', Date=datetime.date(2015, 8, 18), items='other
vegetables, rolls/buns')
Row(Member_number='3055', Date=datetime.date(2015, 8, 18), items='other
vegetables, hamburger meat, soda, soft cheese, waffles')
Row(Member_number='3165', Date=datetime.date(2015, 8, 18), items='frankfurter,
yogurt, other vegetables, herbs, male cosmetics')
Row(Member_number='3363', Date=datetime.date(2015, 8, 18), items='newspapers,
other vegetables')
Row(Member_number='3528', Date=datetime.date(2015, 8, 18), items='pastry, whole
milk, sausage, soda, sliced cheese, domestic eggs')
Row(Member_number='3808', Date=datetime.date(2015, 8, 18), items='whole milk,
frozen meals')
Row(Member_number='4165', Date=datetime.date(2015, 8, 18), items='sausage,
citrus fruit')
Row(Member_number='4257', Date=datetime.date(2015, 8, 18), items='grapes, whole
milk')
Row(Member number='4275', Date=datetime.date(2015, 8, 18), items='whole milk,
grapes, chocolate, pot plants')
Row(Member number='4292', Date=datetime.date(2015, 8, 18), items='citrus fruit,
```

```
specialty chocolate, cream cheese ')
Row(Member_number='4593', Date=datetime.date(2015, 8, 18), items='onions,
whipped/sour cream')
Row(Member_number='4693', Date=datetime.date(2015, 8, 18), items='frankfurter,
butter, domestic eggs, margarine, other vegetables')
Row(Member_number='4696', Date=datetime.date(2015, 8, 18), items='chewing gum,
citrus fruit')
Row(Member_number='4704', Date=datetime.date(2015, 8, 18), items='chewing gum,
hamburger meat, candy, coffee')
Row(Member_number='4928', Date=datetime.date(2015, 8, 18), items='beef, spread
cheese, cake bar')
Row(Member_number='4949', Date=datetime.date(2015, 8, 18), items='frozen fish,
rolls/buns')
Row(Member_number='1025', Date=datetime.date(2015, 8, 19), items='canned beer,
UHT-milk')
Row(Member_number='1669', Date=datetime.date(2015, 8, 19), items='soda, sausage,
root vegetables, pork, whole milk, vinegar, other vegetables, domestic eggs,
shopping bags')
Row(Member_number='2394', Date=datetime.date(2015, 8, 19), items='waffles, whole
milk, condensed milk')
Row(Member number='2488', Date=datetime.date(2015, 8, 19), items='processed
cheese, onions, root vegetables')
Row(Member_number='2561', Date=datetime.date(2015, 8, 19), items='sausage, white
wine')
Row(Member_number='2766', Date=datetime.date(2015, 8, 19), items='citrus fruit,
oil, whole milk')
Row(Member_number='3266', Date=datetime.date(2015, 8, 19), items='canned beer,
domestic eggs')
Row(Member_number='3308', Date=datetime.date(2015, 8, 19), items='chicken, nut
snack, whole milk, newspapers, soft cheese, yogurt, spices, condensed milk')
Row(Member_number='3395', Date=datetime.date(2015, 8, 19), items='whole milk,
margarine')
Row(Member_number='3488', Date=datetime.date(2015, 8, 19), items='frankfurter,
bottled beer, domestic eggs')
Row(Member number='3588', Date=datetime.date(2015, 8, 19), items='whole milk,
other vegetables')
Row(Member number='3868', Date=datetime.date(2015, 8, 19), items='beef, domestic
eggs, pastry')
Row(Member_number='3987', Date=datetime.date(2015, 8, 19), items='other
vegetables, whole milk, root vegetables, domestic eggs')
Row(Member_number='4381', Date=datetime.date(2015, 8, 19), items='onions,
chicken')
Row(Member_number='4572', Date=datetime.date(2015, 8, 19), items='beverages,
whole milk, butter milk, fruit/vegetable juice')
Row(Member_number='4686', Date=datetime.date(2015, 8, 19), items='sausage, whole
Row(Member_number='4704', Date=datetime.date(2015, 8, 19), items='pip fruit,
whole milk')
```

```
Row(Member_number='4960', Date=datetime.date(2015, 8, 19), items='bottled water,
root vegetables')
Row(Member number='1069', Date=datetime.date(2015, 8, 20), items='bottled beer,
tropical fruit, sliced cheese, dishes')
Row(Member number='1218', Date=datetime.date(2015, 8, 20), items='tropical
fruit, rolls/buns, frozen fish')
Row(Member number='1296', Date=datetime.date(2015, 8, 20), items='tropical
fruit, meat, hard cheese, jam')
Row(Member_number='1467', Date=datetime.date(2015, 8, 20), items='ham, pickled
vegetables, newspapers')
Row(Member_number='1486', Date=datetime.date(2015, 8, 20), items='pastry, dish
cleaner')
Row(Member_number='1620', Date=datetime.date(2015, 8, 20), items='chicken,
vogurt')
Row(Member number='1683', Date=datetime.date(2015, 8, 20), items='whole milk,
pip fruit')
Row(Member_number='1997', Date=datetime.date(2015, 8, 20), items='ham,
newspapers, bottled beer')
Row(Member_number='2568', Date=datetime.date(2015, 8, 20), items='beef, sugar,
root vegetables, frozen vegetables')
Row(Member_number='2709', Date=datetime.date(2015, 8, 20), items='curd, citrus
fruit, rolls/buns, other vegetables, dessert')
Row(Member_number='3048', Date=datetime.date(2015, 8, 20), items='sausage,
bottled beer')
Row(Member_number='3167', Date=datetime.date(2015, 8, 20), items='soda,
specialty chocolate')
Row(Member_number='3419', Date=datetime.date(2015, 8, 20), items='onions, root
vegetables, soap, cream cheese ')
Row(Member number='3752', Date=datetime.date(2015, 8, 20), items='whole milk,
sausage, newspapers, soda, flour, bottled water, liquor')
Row(Member_number='3762', Date=datetime.date(2015, 8, 20), items='sausage,
rolls/buns')
Row(Member_number='3926', Date=datetime.date(2015, 8, 20), items='canned beer,
cooking chocolate, white bread, curd, mustard, chocolate')
Row(Member number='4222', Date=datetime.date(2015, 8, 20), items='newspapers,
beverages, beef, chocolate, kitchen towels')
Row(Member number='4227', Date=datetime.date(2015, 8, 20), items='hamburger
meat, coffee, yogurt')
Row(Member_number='4229', Date=datetime.date(2015, 8, 20), items='dishes, other
vegetables, pastry')
Row(Member_number='4466', Date=datetime.date(2015, 8, 20), items='yogurt, whole
milk, ham, citrus fruit, frozen vegetables')
Row(Member_number='4808', Date=datetime.date(2015, 8, 20), items='beverages,
whole milk, semi-finished bread, domestic eggs')
Row(Member_number='4977', Date=datetime.date(2015, 8, 20), items='pip fruit, dog
food, soft cheese, packaged fruit/vegetables, pastry, domestic eggs')
Row(Member_number='1160', Date=datetime.date(2015, 8, 21), items='domestic eggs,
beef, coffee, bottled beer')
```

```
Row(Member number='1208', Date=datetime.date(2015, 8, 21), items='rolls/buns,
frozen meals')
Row(Member number='1391', Date=datetime.date(2015, 8, 21), items='ham, yogurt')
Row(Member_number='1422', Date=datetime.date(2015, 8, 21), items='other
vegetables, curd')
Row(Member_number='1510', Date=datetime.date(2015, 8, 21), items='other
vegetables, whole milk')
Row(Member_number='1668', Date=datetime.date(2015, 8, 21), items='citrus fruit,
female sanitary products')
Row(Member_number='1690', Date=datetime.date(2015, 8, 21), items='sugar, curd')
Row(Member number='1753', Date=datetime.date(2015, 8, 21), items='root
vegetables, pickled vegetables')
Row(Member_number='1817', Date=datetime.date(2015, 8, 21), items='canned beer,
hamburger meat')
Row(Member_number='1968', Date=datetime.date(2015, 8, 21), items='hard cheese,
margarine, rolls/buns')
Row(Member_number='2001', Date=datetime.date(2015, 8, 21), items='rolls/buns,
cereals')
Row(Member_number='2004', Date=datetime.date(2015, 8, 21), items='yogurt,
hamburger meat, other vegetables, mustard')
Row(Member_number='2046', Date=datetime.date(2015, 8, 21), items='dessert,
pork')
Row(Member_number='2064', Date=datetime.date(2015, 8, 21), items='whole milk,
rolls/buns, ice cream, brown bread')
Row(Member_number='2256', Date=datetime.date(2015, 8, 21), items='pastry,
whipped/sour cream, domestic eggs')
Row(Member number='2390', Date=datetime.date(2015, 8, 21), items='citrus fruit,
other vegetables, yogurt')
Row(Member_number='2428', Date=datetime.date(2015, 8, 21), items='yogurt, pasta,
butter, rolls/buns')
Row(Member number='2856', Date=datetime.date(2015, 8, 21), items='meat, other
vegetables')
Row(Member number='3013', Date=datetime.date(2015, 8, 21), items='bottled beer,
root vegetables, hygiene articles')
Row(Member number='3752', Date=datetime.date(2015, 8, 21), items='dishes,
bottled water, spread cheese, sugar')
Row(Member number='3898', Date=datetime.date(2015, 8, 21), items='tropical
fruit, bottled beer')
Row(Member_number='4182', Date=datetime.date(2015, 8, 21), items='pastry,
chewing gum')
Row(Member_number='4220', Date=datetime.date(2015, 8, 21), items='yogurt,
rolls/buns')
Row(Member_number='4257', Date=datetime.date(2015, 8, 21), items='beef, pastry')
Row(Member_number='4351', Date=datetime.date(2015, 8, 21), items='other
vegetables, prosecco, pot plants')
Row(Member_number='4431', Date=datetime.date(2015, 8, 21), items='chicken, whole
milk, butter, soda')
Row(Member_number='4439', Date=datetime.date(2015, 8, 21), items='rolls/buns')
```

```
Row(Member_number='4526', Date=datetime.date(2015, 8, 21), items='frankfurter,
yogurt')
Row(Member_number='4704', Date=datetime.date(2015, 8, 21), items='tropical
fruit, butter')
Row(Member number='4852', Date=datetime.date(2015, 8, 21), items='packaged
fruit/vegetables, pip fruit')
Row(Member number='4866', Date=datetime.date(2015, 8, 21), items='sausage,
canned beer')
Row(Member_number='4940', Date=datetime.date(2015, 8, 21), items='rum, coffee,
sliced cheese')
Row(Member_number='1416', Date=datetime.date(2015, 8, 22), items='other
vegetables, zwieback, oil')
Row(Member_number='1912', Date=datetime.date(2015, 8, 22), items='bottled beer,
bottled water')
Row(Member_number='2419', Date=datetime.date(2015, 8, 22), items='frozen meals,
hamburger meat, whole milk, pastry, fruit/vegetable juice')
Row(Member_number='2581', Date=datetime.date(2015, 8, 22), items='soda, canned
beer, citrus fruit, frozen meals')
Row(Member_number='2798', Date=datetime.date(2015, 8, 22), items='frankfurter,
pastry')
Row(Member_number='2816', Date=datetime.date(2015, 8, 22), items='onions,
grapes, bottled beer')
Row(Member_number='2925', Date=datetime.date(2015, 8, 22), items='tropical
fruit, herbs, chocolate')
Row(Member_number='3096', Date=datetime.date(2015, 8, 22), items='napkins,
fruit/vegetable juice')
Row(Member number='3252', Date=datetime.date(2015, 8, 22), items='citrus fruit,
chicken, bottled water, rolls/buns')
Row(Member_number='3433', Date=datetime.date(2015, 8, 22), items='berries,
whipped/sour cream')
Row(Member number='3710', Date=datetime.date(2015, 8, 22), items='whole milk,
sausage, spread cheese, hygiene articles')
Row(Member_number='3742', Date=datetime.date(2015, 8, 22), items='sausage,
hamburger meat')
Row(Member number='4243', Date=datetime.date(2015, 8, 22), items='canned beer,
root vegetables, hard cheese, specialty cheese')
Row(Member number='4424', Date=datetime.date(2015, 8, 22), items='newspapers,
red/blush wine')
Row(Member_number='4570', Date=datetime.date(2015, 8, 22), items='chicken,
tropical fruit')
Row(Member_number='4680', Date=datetime.date(2015, 8, 22), items='root
vegetables, yogurt')
Row(Member_number='4719', Date=datetime.date(2015, 8, 22), items='frankfurter,
vogurt')
Row(Member_number='4769', Date=datetime.date(2015, 8, 22), items='citrus fruit,
Row(Member_number='4875', Date=datetime.date(2015, 8, 22), items='pastry,
red/blush wine, pickled vegetables')
```

```
Row(Member_number='1032', Date=datetime.date(2015, 8, 23), items='yogurt, root
vegetables')
Row(Member_number='1678', Date=datetime.date(2015, 8, 23), items='bottled water,
whole milk')
Row(Member number='2000', Date=datetime.date(2015, 8, 23), items='bottled beer,
sparkling wine, hamburger meat, rolls/buns')
Row(Member number='2063', Date=datetime.date(2015, 8, 23), items='sausage, cream
cheese ')
Row(Member_number='2196', Date=datetime.date(2015, 8, 23), items='soda, tropical
fruit, other vegetables, bottled water')
Row(Member_number='2433', Date=datetime.date(2015, 8, 23), items='frankfurter,
beverages, beef, whole milk, other vegetables, rolls/buns, softener, vinegar,
white bread')
Row(Member_number='2458', Date=datetime.date(2015, 8, 23), items='frankfurter,
pip fruit, rolls/buns')
Row(Member_number='2613', Date=datetime.date(2015, 8, 23), items='other
vegetables, semi-finished bread, domestic eggs, newspapers')
Row(Member_number='3699', Date=datetime.date(2015, 8, 23), items='berries,
frankfurter, beef, brown bread')
Row(Member_number='3797', Date=datetime.date(2015, 8, 23), items='root
vegetables, tropical fruit, other vegetables, processed cheese')
Row(Member_number='3897', Date=datetime.date(2015, 8, 23), items='other
vegetables, baking powder, salty snack')
Row(Member_number='3911', Date=datetime.date(2015, 8, 23), items='UHT-milk,
salt')
Row(Member number='4150', Date=datetime.date(2015, 8, 23), items='whole milk,
brown bread, pastry, dessert')
Row(Member number='4213', Date=datetime.date(2015, 8, 23), items='hamburger
meat, pork, chicken, whole milk')
Row(Member_number='4303', Date=datetime.date(2015, 8, 23), items='other
vegetables, whole milk, soups, shopping bags')
Row(Member_number='4428', Date=datetime.date(2015, 8, 23), items='pork, citrus
fruit')
Row(Member_number='4453', Date=datetime.date(2015, 8, 23), items='yogurt')
Row(Member number='4499', Date=datetime.date(2015, 8, 23), items='pip fruit,
other vegetables')
Row(Member number='1185', Date=datetime.date(2015, 8, 24), items='pip fruit,
specialty bar, chocolate')
Row(Member_number='1208', Date=datetime.date(2015, 8, 24), items='shopping bags,
misc. beverages')
Row(Member_number='1458', Date=datetime.date(2015, 8, 24), items='pork, canned
beer, specialty bar')
Row(Member_number='1480', Date=datetime.date(2015, 8, 24), items='berries,
packaged fruit/vegetables, tidbits')
Row(Member_number='1514', Date=datetime.date(2015, 8, 24), items='whole milk,
Row(Member_number='1872', Date=datetime.date(2015, 8, 24), items='other
vegetables, berries')
```

```
Row(Member number='1999', Date=datetime.date(2015, 8, 24), items='rolls/buns,
misc. beverages, ice cream, tropical fruit, shopping bags, coffee, popcorn,
hygiene articles')
Row(Member_number='2549', Date=datetime.date(2015, 8, 24), items='sausage,
soda')
Row(Member_number='2570', Date=datetime.date(2015, 8, 24), items='soda, oil')
Row (Member number='2969', Date=datetime.date(2015, 8, 24), items='hygiene
articles, canned fish')
Row(Member number='3137', Date=datetime.date(2015, 8, 24), items='ice cream,
other vegetables, misc. beverages')
Row(Member number='3324', Date=datetime.date(2015, 8, 24), items='whole milk,
rolls/buns')
Row(Member number='3691', Date=datetime.date(2015, 8, 24), items='sausage, root
vegetables, brown bread, soda')
Row(Member_number='3698', Date=datetime.date(2015, 8, 24), items='frankfurter,
whole milk')
Row(Member_number='4109', Date=datetime.date(2015, 8, 24), items='dessert, other
vegetables')
Row(Member_number='4293', Date=datetime.date(2015, 8, 24), items='fish, sausage,
other vegetables, soda, rolls/buns')
Row(Member number='4353', Date=datetime.date(2015, 8, 24), items='fish, chicken,
UHT-milk, other vegetables, cream cheese, hard cheese)
Row(Member_number='4495', Date=datetime.date(2015, 8, 24), items='other
vegetables, domestic eggs')
Row(Member_number='4523', Date=datetime.date(2015, 8, 24), items='frankfurter,
brown bread')
Row(Member_number='4526', Date=datetime.date(2015, 8, 24), items='frankfurter,
rolls/buns')
Row(Member_number='4747', Date=datetime.date(2015, 8, 24), items='frankfurter,
baking powder, shopping bags')
Row(Member_number='4778', Date=datetime.date(2015, 8, 24), items='citrus fruit,
coffee')
Row(Member number='4798', Date=datetime.date(2015, 8, 24), items='rolls/buns,
cream cheese ')
Row(Member number='1158', Date=datetime.date(2015, 8, 25), items='whole milk,
cream cheese ')
Row(Member number='1216', Date=datetime.date(2015, 8, 25), items='whole milk,
soda, root vegetables, pastry, specialty fat, bottled water, napkins, tropical
fruit')
Row(Member_number='1248', Date=datetime.date(2015, 8, 25), items='beef, curd')
Row(Member_number='1395', Date=datetime.date(2015, 8, 25), items='pork, salty
snack')
Row(Member_number='1613', Date=datetime.date(2015, 8, 25), items='yogurt,
cookware')
Row(Member_number='1948', Date=datetime.date(2015, 8, 25), items='whole milk,
frankfurter, yogurt, pip fruit, dessert, soda, margarine')
Row(Member_number='2018', Date=datetime.date(2015, 8, 25), items='waffles,
chocolate')
```

```
Row(Member number='2507', Date=datetime.date(2015, 8, 25), items='root
vegetables, pork, soda, coffee, pastry')
Row(Member_number='2574', Date=datetime.date(2015, 8, 25), items='turkey,
seasonal products')
Row(Member number='3439', Date=datetime.date(2015, 8, 25), items='beef, canned
beer')
Row(Member number='3474', Date=datetime.date(2015, 8, 25), items='root
vegetables, frozen potato products')
Row(Member number='4106', Date=datetime.date(2015, 8, 25), items='whole milk,
rolls/buns, other vegetables, margarine')
Row(Member number='4369', Date=datetime.date(2015, 8, 25), items='beverages,
whole milk, onions')
Row(Member_number='4644', Date=datetime.date(2015, 8, 25), items='dog food,
hygiene articles, Instant food products')
Row(Member_number='4662', Date=datetime.date(2015, 8, 25), items='rolls/buns,
sugar')
Row(Member_number='4667', Date=datetime.date(2015, 8, 25), items='rolls/buns,
cream cheese ')
Row(Member_number='4796', Date=datetime.date(2015, 8, 25), items='white bread,
other vegetables')
Row(Member_number='1031', Date=datetime.date(2015, 8, 26), items='beverages,
cream cheese ')
Row(Member_number='1302', Date=datetime.date(2015, 8, 26), items='citrus fruit,
butter, rolls/buns')
Row(Member_number='1315', Date=datetime.date(2015, 8, 26), items='packaged
fruit/vegetables, rolls/buns')
Row(Member_number='1476', Date=datetime.date(2015, 8, 26), items='yogurt,
shopping bags')
Row(Member_number='2426', Date=datetime.date(2015, 8, 26), items='specialty bar,
chewing gum')
Row(Member_number='2454', Date=datetime.date(2015, 8, 26), items='soda, sausage,
UHT-milk, rolls/buns')
Row(Member_number='2609', Date=datetime.date(2015, 8, 26), items='frankfurter,
coffee')
Row(Member number='2771', Date=datetime.date(2015, 8, 26), items='frankfurter,
sausage')
Row(Member number='3511', Date=datetime.date(2015, 8, 26), items='frankfurter,
bottled water')
Row(Member_number='3526', Date=datetime.date(2015, 8, 26), items='onions, white
wine')
Row(Member_number='3685', Date=datetime.date(2015, 8, 26), items='specialty
chocolate, soda, curd, female sanitary products')
Row(Member_number='3745', Date=datetime.date(2015, 8, 26), items='sausage,
chocolate')
Row(Member_number='3864', Date=datetime.date(2015, 8, 26), items='bottled water,
sugar')
Row(Member_number='4044', Date=datetime.date(2015, 8, 26), items='packaged
fruit/vegetables, margarine, napkins')
```

```
Row(Member_number='4087', Date=datetime.date(2015, 8, 26), items='frankfurter,
butter, long life bakery product')
Row(Member_number='4150', Date=datetime.date(2015, 8, 26), items='tropical
fruit, pastry')
Row(Member number='4296', Date=datetime.date(2015, 8, 26), items='whole milk,
yogurt, oil')
Row(Member number='4524', Date=datetime.date(2015, 8, 26), items='whole milk,
coffee, fruit/vegetable juice')
Row(Member_number='4602', Date=datetime.date(2015, 8, 26), items='beef, frozen
vegetables, coffee')
Row(Member number='4924', Date=datetime.date(2015, 8, 26), items='whole milk,
specialty bar')
Row(Member_number='4952', Date=datetime.date(2015, 8, 26), items='sausage,
pastry, whole milk')
Row(Member_number='1125', Date=datetime.date(2015, 8, 27), items='sausage,
pastry')
Row(Member_number='1484', Date=datetime.date(2015, 8, 27), items='sausage,
bottled beer')
Row(Member_number='1632', Date=datetime.date(2015, 8, 27), items='chicken,
napkins, soda')
Row(Member_number='1722', Date=datetime.date(2015, 8, 27), items='chewing gum,
pastry')
Row(Member_number='1780', Date=datetime.date(2015, 8, 27), items='dessert,
sausage, whole milk, oil')
Row(Member_number='2131', Date=datetime.date(2015, 8, 27), items='sausage, other
vegetables')
Row(Member number='2134', Date=datetime.date(2015, 8, 27), items='pastry, whole
milk')
Row(Member number='2212', Date=datetime.date(2015, 8, 27), items='hamburger
meat, dessert, newspapers')
Row(Member_number='3020', Date=datetime.date(2015, 8, 27), items='condensed
milk, fruit/vegetable juice, white wine, specialty fat')
Row(Member_number='3041', Date=datetime.date(2015, 8, 27), items='butter milk,
shopping bags, baking powder')
Row(Member number='3140', Date=datetime.date(2015, 8, 27), items='cream cheese,
frozen meals')
Row(Member number='3246', Date=datetime.date(2015, 8, 27), items='canned beer,
frozen meals, beef, coffee')
Row(Member_number='3374', Date=datetime.date(2015, 8, 27), items='chicken, pork,
brandy')
Row(Member_number='3507', Date=datetime.date(2015, 8, 27), items='root
vegetables, frozen meals')
Row(Member_number='3593', Date=datetime.date(2015, 8, 27), items='frankfurter,
coffee')
Row(Member_number='3673', Date=datetime.date(2015, 8, 27), items='packaged
fruit/vegetables, specialty bar')
Row(Member_number='4338', Date=datetime.date(2015, 8, 27), items='beverages,
tropical fruit, ham, flour')
```

```
Row(Member_number='4389', Date=datetime.date(2015, 8, 27), items='pork, cake
bar')
Row(Member number='4554', Date=datetime.date(2015, 8, 27), items='whole milk,
root vegetables')
Row(Member number='4611', Date=datetime.date(2015, 8, 27), items='cereals, whole
milk, bottled water')
Row(Member number='4680', Date=datetime.date(2015, 8, 27), items='bottled beer,
pip fruit')
Row(Member number='4685', Date=datetime.date(2015, 8, 27), items='waffles,
tropical fruit, hard cheese, pickled vegetables')
Row(Member number='1276', Date=datetime.date(2015, 8, 28), items='whole milk,
cream cheese , semi-finished bread')
Row(Member number='1287', Date=datetime.date(2015, 8, 28), items='whole milk,
citrus fruit, pip fruit, butter, grapes, ice cream, margarine, whipped/sour
Row(Member_number='1646', Date=datetime.date(2015, 8, 28), items='soda,
frankfurter, butter, whole milk')
Row(Member number='1729', Date=datetime.date(2015, 8, 28), items='meat, whole
milk, ready soups')
Row(Member number='1889', Date=datetime.date(2015, 8, 28), items='ham, chicken')
Row(Member_number='1992', Date=datetime.date(2015, 8, 28), items='pastry,
rolls/buns')
Row(Member_number='2007', Date=datetime.date(2015, 8, 28), items='dessert,
photo/film')
Row(Member number='2106', Date=datetime.date(2015, 8, 28), items='whole milk,
cream cheese ')
Row(Member_number='2233', Date=datetime.date(2015, 8, 28), items='yogurt,
chocolate')
Row(Member_number='2359', Date=datetime.date(2015, 8, 28), items='canned beer,
margarine')
Row(Member_number='2370', Date=datetime.date(2015, 8, 28), items='tropical
fruit, frozen fish, chewing gum, newspapers')
Row(Member_number='2453', Date=datetime.date(2015, 8, 28), items='meat, frozen
meals, whole milk, domestic eggs')
Row(Member number='2466', Date=datetime.date(2015, 8, 28), items='sausage, whole
milk')
Row(Member number='2556', Date=datetime.date(2015, 8, 28), items='newspapers,
pastry')
Row(Member_number='3545', Date=datetime.date(2015, 8, 28), items='bottled water,
whipped/sour cream, berries, whole milk')
Row(Member_number='3806', Date=datetime.date(2015, 8, 28), items='tropical
fruit, pork')
Row(Member number='3922', Date=datetime.date(2015, 8, 28), items='citrus fruit,
yogurt, sausage, hard cheese, napkins, margarine, cream cheese ')
Row(Member_number='3955', Date=datetime.date(2015, 8, 28), items='sausage,
beverages, canned beer, whole milk')
Row(Member_number='4002', Date=datetime.date(2015, 8, 28), items='canned beer,
whole milk')
```

```
Row(Member number='4019', Date=datetime.date(2015, 8, 28), items='whole milk,
sauces')
Row(Member_number='4207', Date=datetime.date(2015, 8, 28), items='sausage, other
vegetables, citrus fruit, curd, red/blush wine, dessert, specialty chocolate,
white bread, pastry')
Row(Member_number='4845', Date=datetime.date(2015, 8, 28), items='bottled water,
chewing gum, beef, brown bread')
Row(Member_number='4883', Date=datetime.date(2015, 8, 28), items='ham, other
vegetables')
Row(Member_number='1256', Date=datetime.date(2015, 8, 29), items='UHT-milk,
herbs, butter, oil')
Row(Member number='1602', Date=datetime.date(2015, 8, 29), items='citrus fruit,
beef')
Row(Member_number='1736', Date=datetime.date(2015, 8, 29), items='rolls/buns,
pickled vegetables, chocolate, whole milk')
Row(Member_number='2116', Date=datetime.date(2015, 8, 29), items='canned beer,
yogurt')
Row(Member_number='2246', Date=datetime.date(2015, 8, 29), items='beef,
berries')
Row(Member number='3132', Date=datetime.date(2015, 8, 29), items='berries, UHT-
milk, cream cheese ')
Row(Member number='3513', Date=datetime.date(2015, 8, 29), items='frankfurter,
baking powder, condensed milk, coffee')
Row(Member_number='3531', Date=datetime.date(2015, 8, 29), items='sausage, liver
loaf, dish cleaner, white bread, canned beer, dishes, white wine, brown bread')
Row(Member_number='3622', Date=datetime.date(2015, 8, 29), items='soda, spread
cheese')
Row(Member_number='3686', Date=datetime.date(2015, 8, 29), items='other
vegetables')
Row(Member_number='4034', Date=datetime.date(2015, 8, 29), items='frankfurter,
whole milk')
Row(Member_number='4056', Date=datetime.date(2015, 8, 29), items='packaged
fruit/vegetables, herbs')
Row(Member_number='4328', Date=datetime.date(2015, 8, 29), items='tropical
fruit, yogurt')
Row(Member_number='4744', Date=datetime.date(2015, 8, 29), items='frankfurter,
whole milk, fruit/vegetable juice, candy')
Row(Member_number='1002', Date=datetime.date(2015, 8, 30), items='butter milk,
specialty chocolate')
Row(Member_number='1815', Date=datetime.date(2015, 8, 30), items='beef,
sausage')
Row(Member_number='2008', Date=datetime.date(2015, 8, 30), items='domestic eggs,
mayonnaise')
Row(Member_number='2013', Date=datetime.date(2015, 8, 30), items='packaged
fruit/vegetables, rolls/buns, domestic eggs')
Row(Member number='2371', Date=datetime.date(2015, 8, 30), items='UHT-milk,
frozen fish')
Row(Member number='2394', Date=datetime.date(2015, 8, 30), items='hamburger
```

```
meat, rolls/buns, beverages, dessert, whole milk, domestic eggs, yogurt, soda')
Row(Member_number='2435', Date=datetime.date(2015, 8, 30), items='bottled beer,
whole milk, other vegetables')
Row(Member_number='2530', Date=datetime.date(2015, 8, 30), items='bottled beer,
other vegetables, waffles')
Row(Member_number='2747', Date=datetime.date(2015, 8, 30), items='rolls/buns,
Row(Member_number='2805', Date=datetime.date(2015, 8, 30), items='curd, ice
Row(Member_number='3031', Date=datetime.date(2015, 8, 30), items='frankfurter,
bottled beer, other vegetables')
Row(Member_number='3128', Date=datetime.date(2015, 8, 30), items='ice cream,
bottled beer, brown bread')
Row(Member_number='3364', Date=datetime.date(2015, 8, 30), items='yogurt,
specialty chocolate, specialty bar')
Row(Member number='3410', Date=datetime.date(2015, 8, 30), items='photo/film,
onions')
Row(Member_number='3679', Date=datetime.date(2015, 8, 30), items='other
vegetables, frankfurter, rolls/buns, shopping bags')
Row(Member number='3698', Date=datetime.date(2015, 8, 30), items='sausage,
yogurt')
Row(Member_number='4193', Date=datetime.date(2015, 8, 30), items='meat,
specialty chocolate')
Row(Member_number='4566', Date=datetime.date(2015, 8, 30), items='whipped/sour
cream, pastry, napkins')
Row(Member_number='4714', Date=datetime.date(2015, 8, 30), items='pastry,
specialty chocolate')
Row(Member_number='1090', Date=datetime.date(2015, 8, 31), items='sausage,
whisky, specialty chocolate, dishes, yogurt, napkins, detergent, pastry')
Row(Member_number='1239', Date=datetime.date(2015, 8, 31), items='brown bread,
tropical fruit')
Row(Member_number='1442', Date=datetime.date(2015, 8, 31), items='chicken, misc.
beverages')
Row(Member_number='1909', Date=datetime.date(2015, 8, 31), items='sausage,
chicken, margarine, yogurt')
Row(Member_number='1944', Date=datetime.date(2015, 8, 31), items='whole milk,
whipped/sour cream')
Row(Member_number='2023', Date=datetime.date(2015, 8, 31), items='citrus fruit,
bottled beer, roll products ')
Row(Member_number='2294', Date=datetime.date(2015, 8, 31), items='root
vegetables, ice cream')
Row(Member number='2356', Date=datetime.date(2015, 8, 31), items='citrus fruit,
butter milk')
Row(Member_number='2448', Date=datetime.date(2015, 8, 31), items='frankfurter,
rolls/buns')
Row(Member_number='2960', Date=datetime.date(2015, 8, 31), items='berries,
tropical fruit, rolls/buns, pastry, whole milk, frozen vegetables')
Row(Member_number='3077', Date=datetime.date(2015, 8, 31), items='chicken, salty
```

```
snack')
Row(Member_number='3451', Date=datetime.date(2015, 8, 31), items='rolls/buns,
butter milk')
Row(Member_number='3593', Date=datetime.date(2015, 8, 31), items='canned beer,
pip fruit, instant coffee, yogurt')
Row(Member_number='3996', Date=datetime.date(2015, 8, 31), items='ham, other
vegetables')
Row(Member_number='4670', Date=datetime.date(2015, 8, 31), items='whole milk,
root vegetables, newspapers')
Row(Member_number='1188', Date=datetime.date(2015, 9, 1), items='whole milk,
rolls/buns, soda')
Row(Member number='1192', Date=datetime.date(2015, 9, 1), items='butter,
seasonal products, fruit/vegetable juice')
Row(Member number='1322', Date=datetime.date(2015, 9, 1), items='chicken, meat,
chewing gum, bottled beer, baking powder, shopping bags')
Row(Member_number='1457', Date=datetime.date(2015, 9, 1), items='yogurt, butter
milk')
Row(Member number='1495', Date=datetime.date(2015, 9, 1), items='root
vegetables, frankfurter, specialty bar, packaged fruit/vegetables, hygiene
articles')
Row(Member_number='1831', Date=datetime.date(2015, 9, 1), items='pork, whole
milk')
Row(Member_number='1960', Date=datetime.date(2015, 9, 1), items='chicken,
rolls/buns, yogurt, pastry')
Row(Member_number='2194', Date=datetime.date(2015, 9, 1), items='soda, UHT-milk,
dessert, napkins')
Row(Member_number='2613', Date=datetime.date(2015, 9, 1), items='soups,
specialty bar, soda, whipped/sour cream')
Row(Member_number='2868', Date=datetime.date(2015, 9, 1), items='salt, semi-
finished bread')
Row(Member_number='2935', Date=datetime.date(2015, 9, 1), items='other
vegetables, canned beer, newspapers')
Row(Member number='3046', Date=datetime.date(2015, 9, 1), items='sausage, whole
milk')
Row(Member number='3590', Date=datetime.date(2015, 9, 1), items='tropical fruit,
citrus fruit')
Row(Member number='4098', Date=datetime.date(2015, 9, 1), items='soda, pip
Row(Member_number='4579', Date=datetime.date(2015, 9, 1), items='pip fruit,
frankfurter, whole milk, cream cheese ')
Row(Member_number='4697', Date=datetime.date(2015, 9, 1), items='other
vegetables, whole milk')
Row(Member number='4757', Date=datetime.date(2015, 9, 1), items='soda, herbs,
canned beer, seasonal products, dishes, yogurt, mayonnaise, flower (seeds)')
Row(Member_number='4891', Date=datetime.date(2015, 9, 1), items='soda, butter,
rolls/buns')
Row(Member_number='4892', Date=datetime.date(2015, 9, 1), items='other
vegetables, citrus fruit, pork, frozen vegetables, cat food, curd, spices,
```

```
soda')
Row(Member_number='4951', Date=datetime.date(2015, 9, 1), items='other
vegetables, whole milk')
Row(Member_number='1044', Date=datetime.date(2015, 9, 2), items='tropical fruit,
other vegetables')
Row(Member number='1220', Date=datetime.date(2015, 9, 2), items='rolls/buns,
specialty chocolate, napkins, onions, rice, butter milk, dental care')
Row(Member_number='1312', Date=datetime.date(2015, 9, 2), items='long life
bakery product, other vegetables')
Row(Member_number='1353', Date=datetime.date(2015, 9, 2), items='pork, beef,
bottled water, salty snack, flour, instant coffee')
Row(Member number='1430', Date=datetime.date(2015, 9, 2), items='canned beer,
hamburger meat, cake bar')
Row(Member_number='1634', Date=datetime.date(2015, 9, 2), items='whole milk,
other vegetables, yogurt, newspapers, bottled water, pet care')
Row(Member_number='1889', Date=datetime.date(2015, 9, 2), items='beef, long life
bakery product, berries, candles')
Row(Member_number='1920', Date=datetime.date(2015, 9, 2), items='whole milk,
citrus fruit')
Row(Member number='2088', Date=datetime.date(2015, 9, 2), items='yogurt,
Row(Member number='2237', Date=datetime.date(2015, 9, 2), items='chicken,
margarine')
Row(Member_number='2474', Date=datetime.date(2015, 9, 2), items='frozen
vegetables, coffee')
Row(Member_number='3051', Date=datetime.date(2015, 9, 2), items='frozen meals,
napkins')
Row(Member_number='3174', Date=datetime.date(2015, 9, 2), items='brown bread,
frozen dessert')
Row(Member number='3469', Date=datetime.date(2015, 9, 2), items='other
vegetables, brown bread')
Row(Member_number='3909', Date=datetime.date(2015, 9, 2), items='tropical fruit,
flower soil/fertilizer, flour, specialty bar')
Row(Member_number='3919', Date=datetime.date(2015, 9, 2), items='curd, sausage,
margarine, long life bakery product')
Row(Member_number='4146', Date=datetime.date(2015, 9, 2), items='pork, packaged
fruit/vegetables, pastry, rolls/buns')
Row(Member_number='4148', Date=datetime.date(2015, 9, 2), items='sausage, butter
milk, beverages')
Row(Member_number='4799', Date=datetime.date(2015, 9, 2), items='canned beer,
sliced cheese, long life bakery product, pasta')
Row(Member_number='4993', Date=datetime.date(2015, 9, 2), items='citrus fruit,
UHT-milk')
Row(Member_number='1732', Date=datetime.date(2015, 9, 3), items='citrus fruit,
yogurt')
Row(Member_number='1953', Date=datetime.date(2015, 9, 3), items='beef, whole
milk, pet care, citrus fruit')
Row(Member number='2086', Date=datetime.date(2015, 9, 3), items='frankfurter,
```

```
chicken, meat, bottled beer, other vegetables, pastry, misc. beverages, root
vegetables, salt')
Row(Member number='2226', Date=datetime.date(2015, 9, 3), items='berries, whole
Row(Member number='2238', Date=datetime.date(2015, 9, 3), items='curd, misc.
beverages')
Row(Member number='2672', Date=datetime.date(2015, 9, 3), items='ham, liquor
(appetizer)')
Row(Member number='2691', Date=datetime.date(2015, 9, 3), items='liver loaf,
rolls/buns')
Row(Member_number='3148', Date=datetime.date(2015, 9, 3), items='sausage,
Row(Member number='3368', Date=datetime.date(2015, 9, 3), items='frankfurter,
domestic eggs')
Row(Member_number='3489', Date=datetime.date(2015, 9, 3), items='tropical fruit,
nuts/prunes')
Row(Member_number='3534', Date=datetime.date(2015, 9, 3), items='beef, yogurt')
Row(Member_number='3749', Date=datetime.date(2015, 9, 3), items='tropical fruit,
napkins, whole milk')
Row(Member number='3772', Date=datetime.date(2015, 9, 3), items='whole milk,
Row(Member number='3855', Date=datetime.date(2015, 9, 3), items='tropical fruit,
citrus fruit, chocolate')
Row(Member_number='3940', Date=datetime.date(2015, 9, 3), items='bottled water,
root vegetables')
Row(Member_number='4539', Date=datetime.date(2015, 9, 3), items='whole milk,
spread cheese, bottled water, onions')
Row(Member_number='4632', Date=datetime.date(2015, 9, 3), items='onions, whole
milk')
Row(Member_number='4733', Date=datetime.date(2015, 9, 3), items='soda, other
vegetables')
Row(Member_number='1112', Date=datetime.date(2015, 9, 4), items='dish cleaner,
ice cream, jam, newspapers')
Row(Member_number='1237', Date=datetime.date(2015, 9, 4), items='ham, whole
milk, other vegetables, soda, white bread, tropical fruit, sugar')
Row(Member_number='1380', Date=datetime.date(2015, 9, 4), items='rolls/buns,
long life bakery product')
Row(Member_number='2087', Date=datetime.date(2015, 9, 4), items='tropical fruit,
whole milk, brown bread, pastry')
Row(Member_number='2359', Date=datetime.date(2015, 9, 4), items='other
vegetables, chocolate')
Row(Member number='2782', Date=datetime.date(2015, 9, 4), items='cream cheese,
tropical fruit, bottled water, soda, specialty bar')
Row(Member_number='3054', Date=datetime.date(2015, 9, 4), items='white wine,
whole milk, misc. beverages')
Row(Member number='3069', Date=datetime.date(2015, 9, 4), items='mustard, whole
milk, tropical fruit')
Row(Member_number='3124', Date=datetime.date(2015, 9, 4), items='citrus fruit,
```

```
whole milk, rolls/buns')
Row(Member_number='3236', Date=datetime.date(2015, 9, 4), items='finished
products, rolls/buns')
Row(Member_number='3399', Date=datetime.date(2015, 9, 4), items='sausage, other
vegetables, fruit/vegetable juice')
Row(Member_number='3621', Date=datetime.date(2015, 9, 4), items='berries, root
vegetables')
Row(Member_number='3980', Date=datetime.date(2015, 9, 4), items='yogurt, citrus
fruit, pastry')
Row(Member_number='4148', Date=datetime.date(2015, 9, 4), items='canned beer,
soda, newspapers')
Row(Member_number='4537', Date=datetime.date(2015, 9, 4), items='sausage,
grapes')
Row(Member_number='4546', Date=datetime.date(2015, 9, 4), items='beef, pip
Row(Member number='4677', Date=datetime.date(2015, 9, 4), items='detergent,
rolls/buns')
Row(Member_number='4789', Date=datetime.date(2015, 9, 4), items='beef, liquor,
specialty cheese')
Row(Member number='1452', Date=datetime.date(2015, 9, 5), items='ham,
rolls/buns')
Row(Member number='1737', Date=datetime.date(2015, 9, 5), items='pastry,
hamburger meat, newspapers, other vegetables, root vegetables, instant coffee,
yogurt, domestic eggs')
Row(Member_number='1787', Date=datetime.date(2015, 9, 5), items='whipped/sour
cream, frozen meals')
Row(Member number='1894', Date=datetime.date(2015, 9, 5), items='curd, soda')
Row(Member_number='2696', Date=datetime.date(2015, 9, 5), items='sausage, curd,
margarine')
Row(Member_number='2787', Date=datetime.date(2015, 9, 5), items='rolls/buns,
specialty bar')
Row(Member_number='2978', Date=datetime.date(2015, 9, 5), items='sausage, meat,
beverages, UHT-milk, frozen dessert, sugar')
Row(Member_number='3035', Date=datetime.date(2015, 9, 5), items='pastry,
candles')
Row(Member_number='3044', Date=datetime.date(2015, 9, 5), items='coffee, other
vegetables')
Row(Member_number='3293', Date=datetime.date(2015, 9, 5), items='sausage,
bottled beer, misc. beverages')
Row(Member_number='3463', Date=datetime.date(2015, 9, 5), items='pastry,
shopping bags')
Row(Member_number='4037', Date=datetime.date(2015, 9, 5), items='soda, frozen
dessert, canned fish')
Row(Member_number='4061', Date=datetime.date(2015, 9, 5), items='instant coffee,
berries')
Row(Member_number='4119', Date=datetime.date(2015, 9, 5), items='whole milk,
onions')
Row(Member number='4187', Date=datetime.date(2015, 9, 5), items='dog food,
```

```
pork')
Row(Member_number='4710', Date=datetime.date(2015, 9, 5), items='pork, root
vegetables')
Row(Member_number='1707', Date=datetime.date(2015, 9, 6), items='sausage,
whipped/sour cream')
Row(Member_number='1805', Date=datetime.date(2015, 9, 6), items='canned beer,
Row(Member_number='2184', Date=datetime.date(2015, 9, 6), items='ham, misc.
beverages')
Row(Member_number='2270', Date=datetime.date(2015, 9, 6), items='whole milk,
pastry, seasonal products, berries, long life bakery product, yogurt, coffee')
Row(Member number='2467', Date=datetime.date(2015, 9, 6), items='chocolate,
other vegetables')
Row(Member_number='2782', Date=datetime.date(2015, 9, 6), items='rolls/buns,
other vegetables')
Row(Member_number='3028', Date=datetime.date(2015, 9, 6), items='sausage, long
life bakery product, beef, other vegetables, margarine')
Row(Member_number='3572', Date=datetime.date(2015, 9, 6), items='specialty
chocolate, rolls/buns')
Row(Member_number='3997', Date=datetime.date(2015, 9, 6), items='pork, herbs')
Row(Member_number='4214', Date=datetime.date(2015, 9, 6), items='tropical fruit,
chewing gum')
Row(Member_number='4780', Date=datetime.date(2015, 9, 6), items='citrus fruit,
brown bread, ketchup')
Row(Member_number='4825', Date=datetime.date(2015, 9, 6), items='tropical fruit,
whipped/sour cream')
Row(Member number='4841', Date=datetime.date(2015, 9, 6), items='canned beer,
fruit/vegetable juice')
Row(Member_number='1053', Date=datetime.date(2015, 9, 7), items='hamburger meat,
pastry')
Row(Member number='1148', Date=datetime.date(2015, 9, 7), items='pork, tropical
Row(Member_number='1837', Date=datetime.date(2015, 9, 7), items='rolls/buns,
citrus fruit, pot plants, yogurt, roll products, fruit/vegetable juice')
Row(Member number='1882', Date=datetime.date(2015, 9, 7), items='chicken, root
vegetables')
Row(Member number='1959', Date=datetime.date(2015, 9, 7), items='pastry, root
vegetables')
Row(Member_number='2128', Date=datetime.date(2015, 9, 7), items='chicken, brown
bread, soda')
Row(Member_number='2210', Date=datetime.date(2015, 9, 7), items='pork, hamburger
meat, whole milk, fruit/vegetable juice')
Row(Member_number='2487', Date=datetime.date(2015, 9, 7), items='ice cream,
other vegetables')
Row(Member_number='3490', Date=datetime.date(2015, 9, 7), items='canned beer,
beverages')
Row(Member_number='3572', Date=datetime.date(2015, 9, 7), items='pork, specialty
chocolate')
```

```
Row(Member_number='3695', Date=datetime.date(2015, 9, 7), items='soda, sliced
cheese')
Row(Member_number='4196', Date=datetime.date(2015, 9, 7), items='rolls/buns,
other vegetables')
Row(Member number='4555', Date=datetime.date(2015, 9, 7), items='citrus fruit,
soda')
Row(Member number='1047', Date=datetime.date(2015, 9, 8), items='sweet spreads,
Row(Member number='1327', Date=datetime.date(2015, 9, 8), items='rolls/buns,
curd')
Row(Member number='1384', Date=datetime.date(2015, 9, 8), items='pip fruit,
specialty chocolate')
Row(Member_number='1633', Date=datetime.date(2015, 9, 8), items='condensed milk,
pork, whole milk, pastry')
Row(Member_number='1761', Date=datetime.date(2015, 9, 8), items='rolls/buns,
napkins, cream cheese, shopping bags')
Row(Member_number='1983', Date=datetime.date(2015, 9, 8), items='sausage,
pastry, ice cream')
Row(Member_number='2534', Date=datetime.date(2015, 9, 8), items='pet care,
bottled water, soda')
Row(Member number='2979', Date=datetime.date(2015, 9, 8), items='rum, onions')
Row(Member_number='3120', Date=datetime.date(2015, 9, 8), items='meat, yogurt')
Row(Member_number='3241', Date=datetime.date(2015, 9, 8), items='chicken, root
vegetables, whole milk, rolls/buns')
Row(Member_number='3289', Date=datetime.date(2015, 9, 8), items='tropical fruit,
root vegetables, candy, yogurt, rolls/buns')
Row(Member_number='4277', Date=datetime.date(2015, 9, 8), items='sausage, root
vegetables, soda')
Row(Member_number='4503', Date=datetime.date(2015, 9, 8), items='whole milk,
bottled water')
Row(Member_number='1079', Date=datetime.date(2015, 9, 9), items='rolls/buns,
onions, napkins')
Row(Member_number='1110', Date=datetime.date(2015, 9, 9), items='ham, yogurt')
Row(Member_number='1724', Date=datetime.date(2015, 9, 9), items='hamburger meat,
rolls/buns, pip fruit, berries')
Row(Member_number='1731', Date=datetime.date(2015, 9, 9), items='bottled beer,
tropical fruit')
Row(Member_number='1819', Date=datetime.date(2015, 9, 9), items='root
vegetables, tropical fruit')
Row(Member_number='1870', Date=datetime.date(2015, 9, 9), items='pork, hamburger
meat, soda, other vegetables, popcorn, brown bread, bottled water')
Row(Member number='1979', Date=datetime.date(2015, 9, 9), items='pork, frozen
vegetables')
Row(Member number='1989', Date=datetime.date(2015, 9, 9), items='soda, mustard')
Row(Member_number='2001', Date=datetime.date(2015, 9, 9), items='bottled water,
other vegetables')
Row(Member_number='2408', Date=datetime.date(2015, 9, 9), items='sausage,
liquor')
```

```
Row(Member_number='2501', Date=datetime.date(2015, 9, 9), items='onions, whole
milk')
Row(Member_number='2855', Date=datetime.date(2015, 9, 9), items='other
vegetables, soda')
Row(Member number='2874', Date=datetime.date(2015, 9, 9), items='pip fruit,
butter, whole milk, other vegetables')
Row(Member number='2876', Date=datetime.date(2015, 9, 9), items='sausage, other
vegetables')
Row(Member number='3983', Date=datetime.date(2015, 9, 9), items='butter milk,
chocolate, berries, sweet spreads, butter, long life bakery product, napkins,
white bread')
Row(Member number='4124', Date=datetime.date(2015, 9, 9), items='frankfurter,
mustard, shopping bags')
Row(Member number='4455', Date=datetime.date(2015, 9, 9), items='shopping bags,
Row(Member number='4695', Date=datetime.date(2015, 9, 9), items='pork, canned
beer')
Row(Member number='4859', Date=datetime.date(2015, 9, 9), items='whipped/sour
cream, whole milk')
Row(Member number='1092', Date=datetime.date(2015, 9, 10), items='frankfurter,
other vegetables, bottled beer')
Row(Member_number='1170', Date=datetime.date(2015, 9, 10), items='citrus fruit,
whipped/sour cream')
Row(Member_number='1424', Date=datetime.date(2015, 9, 10), items='citrus fruit,
instant coffee')
Row(Member_number='1443', Date=datetime.date(2015, 9, 10), items='butter,
rolls/buns, cream cheese , flour')
Row(Member_number='1468', Date=datetime.date(2015, 9, 10), items='canned beer,
other vegetables, yogurt')
Row(Member_number='1788', Date=datetime.date(2015, 9, 10), items='sausage,
pork')
Row(Member_number='1839', Date=datetime.date(2015, 9, 10), items='pork,
whipped/sour cream')
Row(Member_number='1931', Date=datetime.date(2015, 9, 10), items='beef, other
vegetables')
Row(Member_number='2019', Date=datetime.date(2015, 9, 10), items='sausage, salty
snack, brown bread, white bread, candles')
Row(Member_number='2196', Date=datetime.date(2015, 9, 10), items='meat, house
keeping products')
Row(Member_number='2306', Date=datetime.date(2015, 9, 10), items='rolls/buns,
grapes, shopping bags')
Row(Member number='2380', Date=datetime.date(2015, 9, 10), items='hamburger
meat, cookware, pastry')
Row(Member_number='2568', Date=datetime.date(2015, 9, 10), items='sausage, pip
fruit, dish cleaner')
Row(Member_number='2691', Date=datetime.date(2015, 9, 10), items='beef, tropical
fruit')
Row(Member number='2692', Date=datetime.date(2015, 9, 10), items='beef, white
```

```
wine, UHT-milk, butter milk')
Row(Member_number='2835', Date=datetime.date(2015, 9, 10), items='citrus fruit,
ham, onions, yogurt, pasta, newspapers')
Row(Member_number='2975', Date=datetime.date(2015, 9, 10), items='canned beer,
fruit/vegetable juice')
Row(Member_number='4437', Date=datetime.date(2015, 9, 10), items='pork, hard
cheese')
Row(Member_number='4584', Date=datetime.date(2015, 9, 10), items='beef, tropical
Row(Member_number='1056', Date=datetime.date(2015, 9, 11), items='whipped/sour
cream, meat spreads')
Row(Member number='1088', Date=datetime.date(2015, 9, 11), items='whole milk,
hard cheese')
Row(Member_number='1199', Date=datetime.date(2015, 9, 11), items='beverages,
sausage')
Row(Member_number='1326', Date=datetime.date(2015, 9, 11), items='ice cream,
beef, yogurt, canned beer')
Row(Member_number='1465', Date=datetime.date(2015, 9, 11), items='canned beer,
curd')
Row(Member number='1499', Date=datetime.date(2015, 9, 11), items='cat food,
Row(Member number='1515', Date=datetime.date(2015, 9, 11), items='hamburger
meat, soda, hard cheese')
Row(Member_number='1654', Date=datetime.date(2015, 9, 11), items='frozen
dessert, beef, citrus fruit, root vegetables')
Row(Member number='1717', Date=datetime.date(2015, 9, 11), items='chicken,
rolls/buns, other vegetables, margarine')
Row(Member_number='1855', Date=datetime.date(2015, 9, 11), items='ham, hamburger
meat, whole milk, margarine')
Row(Member_number='1887', Date=datetime.date(2015, 9, 11), items='soda, sausage,
yogurt, root vegetables')
Row(Member_number='2738', Date=datetime.date(2015, 9, 11), items='frankfurter,
beef, red/blush wine, whole milk, frozen dessert')
Row(Member_number='2899', Date=datetime.date(2015, 9, 11), items='sausage,
fruit/vegetable juice, pot plants')
Row(Member_number='2992', Date=datetime.date(2015, 9, 11), items='pip fruit, pet
care, bottled water')
Row(Member_number='3251', Date=datetime.date(2015, 9, 11), items='salt, yogurt,
rolls/buns, whole milk')
Row(Member_number='3354', Date=datetime.date(2015, 9, 11), items='yogurt,
hygiene articles')
Row(Member_number='3520', Date=datetime.date(2015, 9, 11), items='detergent,
newspapers, other vegetables, ketchup')
Row(Member number='3523', Date=datetime.date(2015, 9, 11), items='root
vegetables, other vegetables')
Row(Member_number='3653', Date=datetime.date(2015, 9, 11), items='frankfurter,
red/blush wine')
Row(Member_number='3746', Date=datetime.date(2015, 9, 11), items='chicken,
```

```
tropical fruit, whipped/sour cream')
Row(Member_number='4398', Date=datetime.date(2015, 9, 11), items='other
vegetables, salt')
Row(Member_number='4441', Date=datetime.date(2015, 9, 11), items='citrus fruit,
bottled beer, rolls/buns, hygiene articles, softener')
Row(Member_number='4486', Date=datetime.date(2015, 9, 11), items='citrus fruit,
ham, canned beer, frozen vegetables, tropical fruit, other vegetables, yogurt,
whole milk, onions')
Row(Member number='4550', Date=datetime.date(2015, 9, 11), items='root
vegetables, newspapers')
Row(Member_number='4773', Date=datetime.date(2015, 9, 11), items='tropical
fruit, whipped/sour cream')
Row(Member number='4779', Date=datetime.date(2015, 9, 11), items='sausage,
chewing gum')
Row(Member_number='1011', Date=datetime.date(2015, 9, 12), items='whole milk,
frankfurter, candles, grapes, herbs, other vegetables, yogurt')
Row(Member_number='1278', Date=datetime.date(2015, 9, 12), items='other
vegetables, cookware, canned beer, frozen vegetables, butter, ice cream, bottled
water')
Row(Member number='1601', Date=datetime.date(2015, 9, 12), items='whole milk,
root vegetables')
Row(Member number='1677', Date=datetime.date(2015, 9, 12), items='tropical
fruit, pip fruit, prosecco')
Row(Member_number='1991', Date=datetime.date(2015, 9, 12), items='citrus fruit,
other vegetables')
Row(Member_number='2375', Date=datetime.date(2015, 9, 12), items='pork, butter')
Row(Member_number='3265', Date=datetime.date(2015, 9, 12), items='specialty bar,
chocolate, packaged fruit/vegetables, domestic eggs, cream cheese ')
Row(Member_number='3323', Date=datetime.date(2015, 9, 12), items='beef, sausage,
oil, candles')
Row(Member_number='3927', Date=datetime.date(2015, 9, 12), items='bottled water,
rolls/buns')
Row(Member number='4242', Date=datetime.date(2015, 9, 12), items='coffee, whole
milk, canned fruit')
Row(Member number='4291', Date=datetime.date(2015, 9, 12), items='sausage, pip
fruit')
Row(Member number='4604', Date=datetime.date(2015, 9, 12), items='other
vegetables, margarine')
Row(Member_number='4746', Date=datetime.date(2015, 9, 12), items='frozen
vegetables, yogurt')
Row(Member_number='4835', Date=datetime.date(2015, 9, 12), items='whole milk,
root vegetables, soda')
Row(Member_number='1056', Date=datetime.date(2015, 9, 13), items='pip fruit,
other vegetables')
Row(Member_number='1156', Date=datetime.date(2015, 9, 13), items='berries, other
vegetables')
Row(Member_number='1335', Date=datetime.date(2015, 9, 13), items='onions,
waffles')
```

```
Row(Member_number='1763', Date=datetime.date(2015, 9, 13), items='coffee, hard
cheese, domestic eggs')
Row(Member number='1782', Date=datetime.date(2015, 9, 13), items='tropical
fruit, yogurt')
Row(Member number='2235', Date=datetime.date(2015, 9, 13), items='pip fruit,
root vegetables')
Row(Member number='2711', Date=datetime.date(2015, 9, 13), items='light bulbs,
frozen vegetables, liquor, citrus fruit, butter, chewing gum, cream cheese,
rolls/buns')
Row(Member_number='2934', Date=datetime.date(2015, 9, 13), items='bottled beer,
UHT-milk')
Row(Member_number='3292', Date=datetime.date(2015, 9, 13), items='beef, pork')
Row(Member_number='3406', Date=datetime.date(2015, 9, 13), items='bottled beer,
pork')
Row(Member_number='3455', Date=datetime.date(2015, 9, 13), items='other
vegetables, root vegetables, pastry, margarine')
Row(Member_number='3529', Date=datetime.date(2015, 9, 13), items='canned beer,
beverages')
Row(Member_number='3917', Date=datetime.date(2015, 9, 13), items='whipped/sour
cream, shopping bags, soda')
Row(Member_number='4249', Date=datetime.date(2015, 9, 13), items='canned beer,
berries')
Row(Member_number='4267', Date=datetime.date(2015, 9, 13), items='sausage, whole
milk, whipped/sour cream, yogurt')
Row(Member_number='4536', Date=datetime.date(2015, 9, 13), items='hamburger
meat, dessert, sliced cheese')
Row(Member_number='4785', Date=datetime.date(2015, 9, 13), items='canned beer,
tropical fruit, fruit/vegetable juice, shopping bags')
Row(Member_number='4814', Date=datetime.date(2015, 9, 13), items='whole milk')
Row(Member_number='4841', Date=datetime.date(2015, 9, 13), items='chicken,
citrus fruit')
Row(Member_number='4861', Date=datetime.date(2015, 9, 13), items='other
vegetables, pudding powder')
Row(Member_number='4875', Date=datetime.date(2015, 9, 13), items='flour, grapes,
frankfurter, bottled beer, citrus fruit, other vegetables, cat food, frozen
vegetables')
Row(Member number='1213', Date=datetime.date(2015, 9, 14), items='citrus fruit,
bottled beer')
Row(Member_number='1678', Date=datetime.date(2015, 9, 14), items='pork, frozen
dessert')
Row(Member_number='2618', Date=datetime.date(2015, 9, 14), items='bottled beer,
tropical fruit, yogurt, berries')
Row(Member_number='2687', Date=datetime.date(2015, 9, 14), items='mustard, root
vegetables')
Row(Member_number='2750', Date=datetime.date(2015, 9, 14), items='other
vegetables, whole milk, pork, onions')
Row(Member_number='3027', Date=datetime.date(2015, 9, 14), items='whipped/sour
cream, root vegetables, baking powder')
```

```
Row(Member number='3364', Date=datetime.date(2015, 9, 14), items='citrus fruit,
beverages')
Row(Member_number='3460', Date=datetime.date(2015, 9, 14), items='other
vegetables, dessert')
Row(Member number='4187', Date=datetime.date(2015, 9, 14), items='pip fruit,
sliced cheese, sugar')
Row(Member number='4281', Date=datetime.date(2015, 9, 14), items='newspapers,
soda, canned beer')
Row(Member_number='4648', Date=datetime.date(2015, 9, 14), items='ham, instant
coffee')
Row(Member_number='4675', Date=datetime.date(2015, 9, 14), items='coffee, citrus
fruit, other vegetables, fruit/vegetable juice')
Row(Member_number='4686', Date=datetime.date(2015, 9, 14), items='tropical
fruit, other vegetables')
Row(Member_number='4890', Date=datetime.date(2015, 9, 14), items='meat,
condensed milk')
Row(Member number='4924', Date=datetime.date(2015, 9, 14), items='rolls/buns,
butter')
Row(Member_number='4947', Date=datetime.date(2015, 9, 14), items='chewing gum,
photo/film, yogurt, long life bakery product, soda, whole milk')
Row(Member_number='1347', Date=datetime.date(2015, 9, 15), items='frankfurter,
beef, soda, rolls/buns, pastry, bottled water, ketchup')
Row(Member_number='1528', Date=datetime.date(2015, 9, 15), items='chicken')
Row(Member_number='1880', Date=datetime.date(2015, 9, 15), items='bottled beer,
soda')
Row(Member_number='2243', Date=datetime.date(2015, 9, 15), items='grapes,
rolls/buns')
Row(Member number='2315', Date=datetime.date(2015, 9, 15), items='rolls/buns,
shopping bags')
Row(Member_number='2675', Date=datetime.date(2015, 9, 15), items='canned beer,
rolls/buns')
Row(Member_number='3027', Date=datetime.date(2015, 9, 15), items='sausage,
red/blush wine')
Row(Member_number='3041', Date=datetime.date(2015, 9, 15), items='sausage, pip
fruit, hard cheese, frozen vegetables')
Row(Member_number='3180', Date=datetime.date(2015, 9, 15), items='bottled beer,
tropical fruit, domestic eggs, baking powder')
Row(Member_number='3779', Date=datetime.date(2015, 9, 15), items='frankfurter,
tropical fruit, berries')
Row(Member_number='3815', Date=datetime.date(2015, 9, 15), items='coffee, whole
milk')
Row(Member number='4309', Date=datetime.date(2015, 9, 15), items='whole milk,
salt')
Row(Member number='4521', Date=datetime.date(2015, 9, 15), items='frozen potato
products, chewing gum')
Row(Member_number='1322', Date=datetime.date(2015, 9, 16), items='waffles,
curd')
Row(Member_number='1341', Date=datetime.date(2015, 9, 16), items='other
```

```
vegetables, fruit/vegetable juice')
Row(Member_number='1941', Date=datetime.date(2015, 9, 16), items='napkins, other
vegetables, pot plants')
Row(Member_number='2459', Date=datetime.date(2015, 9, 16), items='soda, other
vegetables, bottled water, white bread, frozen meals, onions, bottled beer,
margarine')
Row(Member number='2794', Date=datetime.date(2015, 9, 16), items='liquor,
brandy')
Row(Member number='2851', Date=datetime.date(2015, 9, 16), items='canned beer,
napkins')
Row(Member number='3774', Date=datetime.date(2015, 9, 16), items='beef, misc.
beverages, salty snack')
Row(Member_number='3797', Date=datetime.date(2015, 9, 16), items='whole milk,
butter')
Row(Member_number='3835', Date=datetime.date(2015, 9, 16), items='yogurt, whole
milk, pickled vegetables, long life bakery product, mustard')
Row(Member_number='3979', Date=datetime.date(2015, 9, 16), items='citrus fruit,
ham')
Row(Member_number='3980', Date=datetime.date(2015, 9, 16), items='rolls/buns,
root vegetables, pastry, cake bar, canned fish')
Row(Member_number='4147', Date=datetime.date(2015, 9, 16), items='pip fruit,
canned beer')
Row(Member_number='4387', Date=datetime.date(2015, 9, 16), items='whole milk,
rolls/buns')
Row(Member_number='4906', Date=datetime.date(2015, 9, 16), items='tropical
fruit, butter milk, shopping bags')
Row(Member_number='4953', Date=datetime.date(2015, 9, 16), items='chicken,
citrus fruit')
Row(Member_number='1151', Date=datetime.date(2015, 9, 17), items='berries, pip
fruit, pastry')
Row(Member_number='1348', Date=datetime.date(2015, 9, 17), items='soda, beef')
Row(Member_number='1719', Date=datetime.date(2015, 9, 17), items='nuts/prunes,
canned beer, other vegetables, shopping bags')
Row(Member_number='1754', Date=datetime.date(2015, 9, 17), items='citrus fruit,
beverages, pip fruit, other vegetables')
Row(Member_number='1794', Date=datetime.date(2015, 9, 17), items='sweet spreads,
bottled beer')
Row(Member_number='1834', Date=datetime.date(2015, 9, 17), items='frankfurter,
shopping bags, frozen vegetables')
Row(Member_number='1928', Date=datetime.date(2015, 9, 17), items='photo/film,
canned beer')
Row(Member_number='2053', Date=datetime.date(2015, 9, 17), items='cereals, cream
cheese , other vegetables')
Row(Member_number='2346', Date=datetime.date(2015, 9, 17), items='chicken, whole
milk, coffee')
Row(Member number='2635', Date=datetime.date(2015, 9, 17), items='whole milk,
specialty bar')
Row(Member number='2904', Date=datetime.date(2015, 9, 17), items='root
```

```
vegetables, flour')
Row(Member_number='3844', Date=datetime.date(2015, 9, 17), items='whole milk,
pip fruit')
Row(Member_number='3877', Date=datetime.date(2015, 9, 17), items='pip fruit,
soda, detergent')
Row(Member_number='3963', Date=datetime.date(2015, 9, 17), items='whole milk,
Row(Member_number='4064', Date=datetime.date(2015, 9, 17), items='citrus fruit,
butter milk')
Row(Member_number='4576', Date=datetime.date(2015, 9, 17), items='canned beer,
newspapers')
Row(Member_number='4711', Date=datetime.date(2015, 9, 17), items='frankfurter,
napkins')
Row(Member number='4853', Date=datetime.date(2015, 9, 17), items='yogurt, pip
fruit, house keeping products, frozen vegetables')
Row(Member_number='1062', Date=datetime.date(2015, 9, 18), items='other
vegetables, yogurt, whole milk, butter, shopping bags')
Row(Member_number='1130', Date=datetime.date(2015, 9, 18), items='bottled water,
frankfurter, dessert, root vegetables')
Row(Member number='1417', Date=datetime.date(2015, 9, 18), items='UHT-milk,
salty snack')
Row(Member number='1456', Date=datetime.date(2015, 9, 18), items='root
vegetables, rolls/buns, whole milk, frozen vegetables, specialty chocolate,
seasonal products')
Row(Member_number='1708', Date=datetime.date(2015, 9, 18), items='cat food,
whole milk, turkey, spread cheese, canned beer, berries, long life bakery
product')
Row(Member_number='1971', Date=datetime.date(2015, 9, 18), items='sausage, curd,
bottled water, frozen meals')
Row(Member_number='2434', Date=datetime.date(2015, 9, 18), items='soda, coffee,
cling film/bags')
Row(Member_number='2814', Date=datetime.date(2015, 9, 18), items='berries,
specialty bar')
Row(Member_number='3036', Date=datetime.date(2015, 9, 18), items='yogurt, whole
Row(Member_number='3652', Date=datetime.date(2015, 9, 18), items='other
vegetables, whole milk')
Row(Member_number='3962', Date=datetime.date(2015, 9, 18), items='tropical
fruit, hamburger meat, coffee, sliced cheese, whipped/sour cream')
Row(Member_number='4240', Date=datetime.date(2015, 9, 18), items='citrus fruit,
rolls/buns, whole milk, brown bread')
Row(Member_number='4756', Date=datetime.date(2015, 9, 18), items='tropical
fruit, frozen fish, bottled water')
Row(Member_number='4915', Date=datetime.date(2015, 9, 18), items='canned beer,
rolls/buns, berries, domestic eggs')
Row(Member_number='1355', Date=datetime.date(2015, 9, 19), items='frankfurter,
processed cheese')
Row(Member number='1472', Date=datetime.date(2015, 9, 19), items='root
```

```
vegetables, bottled water, waffles')
Row(Member_number='1636', Date=datetime.date(2015, 9, 19), items='rolls/buns,
bottled beer')
Row(Member_number='1730', Date=datetime.date(2015, 9, 19), items='other
vegetables, rolls/buns')
Row(Member_number='1873', Date=datetime.date(2015, 9, 19), items='sausage')
Row(Member number='2100', Date=datetime.date(2015, 9, 19), items='dishes,
tropical fruit')
Row(Member_number='2184', Date=datetime.date(2015, 9, 19), items='oil, bottled
beer, yogurt')
Row(Member number='2300', Date=datetime.date(2015, 9, 19), items='pip fruit,
other vegetables, flour')
Row(Member_number='2379', Date=datetime.date(2015, 9, 19), items='soda, other
vegetables')
Row(Member_number='2608', Date=datetime.date(2015, 9, 19), items='rolls/buns,
other vegetables')
Row(Member_number='2739', Date=datetime.date(2015, 9, 19), items='pip fruit,
specialty bar')
Row(Member_number='2837', Date=datetime.date(2015, 9, 19), items='rolls/buns,
citrus fruit')
Row(Member number='2872', Date=datetime.date(2015, 9, 19), items='onions,
tropical fruit, shopping bags, other vegetables')
Row(Member_number='2876', Date=datetime.date(2015, 9, 19), items='tropical
fruit, chewing gum')
Row(Member_number='2957', Date=datetime.date(2015, 9, 19), items='sausage, UHT-
milk, candles, chewing gum, bottled beer, artif. sweetener, butter')
Row(Member_number='3558', Date=datetime.date(2015, 9, 19), items='frankfurter,
pip fruit, whole milk, other vegetables, salty snack, whipped/sour cream')
Row(Member number='3845', Date=datetime.date(2015, 9, 19), items='hygiene
articles, other vegetables')
Row(Member_number='4071', Date=datetime.date(2015, 9, 19), items='sausage,
Row(Member_number='4737', Date=datetime.date(2015, 9, 19), items='pork, root
vegetables')
Row(Member number='4780', Date=datetime.date(2015, 9, 19), items='soda,
condensed milk, curd')
Row(Member number='4871', Date=datetime.date(2015, 9, 19), items='shopping bags,
whole milk')
Row(Member_number='1259', Date=datetime.date(2015, 9, 20), items='ice cream,
whole milk')
Row(Member_number='1512', Date=datetime.date(2015, 9, 20), items='chicken,
domestic eggs')
Row(Member number='2169', Date=datetime.date(2015, 9, 20), items='meat, rum')
Row(Member_number='2240', Date=datetime.date(2015, 9, 20), items='pip fruit,
chocolate, brown bread')
Row(Member_number='2269', Date=datetime.date(2015, 9, 20), items='berries,
rolls/buns')
Row(Member number='2291', Date=datetime.date(2015, 9, 20), items='ham, roll
```

```
products , brown bread')
Row(Member_number='2480', Date=datetime.date(2015, 9, 20), items='frankfurter,
soda, other vegetables')
Row(Member_number='2604', Date=datetime.date(2015, 9, 20), items='tropical
fruit, bottled water, dishes')
Row(Member_number='2664', Date=datetime.date(2015, 9, 20), items='chicken,
sausage, domestic eggs, pasta')
Row(Member_number='3012', Date=datetime.date(2015, 9, 20), items='pork, brown
Row(Member_number='3241', Date=datetime.date(2015, 9, 20), items='root
vegetables, grapes')
Row(Member number='3593', Date=datetime.date(2015, 9, 20), items='whole milk,
grapes')
Row(Member number='3643', Date=datetime.date(2015, 9, 20), items='bottled beer,
frankfurter, pastry, sliced cheese, frozen vegetables')
Row(Member_number='3962', Date=datetime.date(2015, 9, 20), items='sausage,
sauces')
Row(Member_number='3976', Date=datetime.date(2015, 9, 20), items='chicken,
bottled water')
Row(Member number='4079', Date=datetime.date(2015, 9, 20), items='pork, whole
Row(Member number='4403', Date=datetime.date(2015, 9, 20), items='frankfurter,
other vegetables')
Row(Member_number='4769', Date=datetime.date(2015, 9, 20), items='sausage,
grapes, bottled beer')
Row(Member_number='4819', Date=datetime.date(2015, 9, 20), items='sausage, soda,
bottled water')
Row(Member_number='1515', Date=datetime.date(2015, 9, 21), items='pastry, cat
Row(Member number='1572', Date=datetime.date(2015, 9, 21), items='soda, candy')
Row(Member_number='1780', Date=datetime.date(2015, 9, 21), items='sausage,
Row(Member number='1793', Date=datetime.date(2015, 9, 21), items='long life
bakery product, rolls/buns')
Row(Member number='2053', Date=datetime.date(2015, 9, 21), items='citrus fruit,
yogurt, rolls/buns')
Row(Member number='2678', Date=datetime.date(2015, 9, 21), items='berries,
rolls/buns')
Row(Member_number='2703', Date=datetime.date(2015, 9, 21), items='ham, canned
beer, soups')
Row(Member_number='3679', Date=datetime.date(2015, 9, 21), items='citrus fruit,
pot plants, newspapers')
Row(Member_number='3960', Date=datetime.date(2015, 9, 21), items='frankfurter,
whole milk, specialty bar')
Row(Member_number='4434', Date=datetime.date(2015, 9, 21), items='beef,
mayonnaise')
Row(Member_number='4440', Date=datetime.date(2015, 9, 21), items='rolls/buns,
fruit/vegetable juice')
```

```
Row(Member_number='4750', Date=datetime.date(2015, 9, 21), items='flour, pork,
butter, shopping bags, hard cheese')
Row(Member_number='4878', Date=datetime.date(2015, 9, 21), items='coffee,
packaged fruit/vegetables, pickled vegetables')
Row(Member number='1132', Date=datetime.date(2015, 9, 22), items='soda, whole
milk')
Row (Member number='1283', Date=datetime.date(2015, 9, 22), items='root
vegetables, chicken')
Row(Member_number='1290', Date=datetime.date(2015, 9, 22), items='sausage,
whipped/sour cream')
Row(Member number='1333', Date=datetime.date(2015, 9, 22), items='ham, sausage,
curd, other vegetables')
Row(Member_number='1922', Date=datetime.date(2015, 9, 22), items='packaged
fruit/vegetables, other vegetables')
Row(Member_number='2005', Date=datetime.date(2015, 9, 22), items='bottled beer,
jam, male cosmetics, dessert')
Row(Member_number='2039', Date=datetime.date(2015, 9, 22), items='oil, sparkling
Row(Member_number='2062', Date=datetime.date(2015, 9, 22), items='whole milk,
shopping bags')
Row(Member_number='2211', Date=datetime.date(2015, 9, 22), items='whole milk,
canned beer, processed cheese')
Row(Member_number='2212', Date=datetime.date(2015, 9, 22), items='curd, other
vegetables')
Row(Member_number='2459', Date=datetime.date(2015, 9, 22), items='whole milk,
canned beer, cat food')
Row(Member_number='2568', Date=datetime.date(2015, 9, 22), items='pip fruit,
flour, other vegetables')
Row(Member_number='2654', Date=datetime.date(2015, 9, 22), items='frankfurter,
whole milk, rolls/buns')
Row(Member_number='2810', Date=datetime.date(2015, 9, 22), items='sausage,
citrus fruit')
Row(Member_number='2928', Date=datetime.date(2015, 9, 22), items='frankfurter,
frozen meals')
Row(Member number='3017', Date=datetime.date(2015, 9, 22), items='hamburger
meat, soft cheese')
Row (Member number='3067', Date=datetime.date(2015, 9, 22), items='candy,
margarine')
Row(Member_number='3306', Date=datetime.date(2015, 9, 22), items='frankfurter,
sausage')
Row(Member_number='3484', Date=datetime.date(2015, 9, 22), items='cream cheese,
salty snack')
Row(Member_number='3496', Date=datetime.date(2015, 9, 22), items='rolls/buns,
soda')
Row(Member_number='3504', Date=datetime.date(2015, 9, 22), items='root
vegetables, white wine, whipped/sour cream, abrasive cleaner, soda')
Row(Member_number='4129', Date=datetime.date(2015, 9, 22), items='whole milk,
onions')
```

```
Row(Member number='4384', Date=datetime.date(2015, 9, 22), items='citrus fruit,
canned fish')
Row(Member_number='1009', Date=datetime.date(2015, 9, 23), items='pastry,
ketchup')
Row (Member number='1486', Date=datetime.date(2015, 9, 23), items='chicken,
beef')
Row(Member number='1756', Date=datetime.date(2015, 9, 23), items='ice cream,
onions, soda')
Row(Member number='1811', Date=datetime.date(2015, 9, 23), items='yogurt, white
wine')
Row(Member_number='2287', Date=datetime.date(2015, 9, 23), items='yogurt,
rolls/buns')
Row(Member_number='2294', Date=datetime.date(2015, 9, 23), items='frankfurter,
rolls/buns')
Row(Member_number='2357', Date=datetime.date(2015, 9, 23), items='waffles,
shopping bags, soda, cream cheese ')
Row(Member_number='2469', Date=datetime.date(2015, 9, 23), items='hamburger
meat, frozen vegetables, cream cheese ')
Row(Member_number='2632', Date=datetime.date(2015, 9, 23), items='meat, pot
plants, canned vegetables')
Row(Member_number='2716', Date=datetime.date(2015, 9, 23), items='yogurt, ice
cream')
Row(Member_number='2846', Date=datetime.date(2015, 9, 23), items='other
vegetables, liquor')
Row(Member_number='3413', Date=datetime.date(2015, 9, 23), items='beverages,
chocolate')
Row(Member number='3522', Date=datetime.date(2015, 9, 23), items='meat, beef,
whole milk, other vegetables, grapes, whipped/sour cream, coffee')
Row(Member_number='3583', Date=datetime.date(2015, 9, 23), items='sausage, whole
milk')
Row(Member number='3665', Date=datetime.date(2015, 9, 23), items='citrus fruit,
bottled water, butter milk, chocolate, zwieback, shopping bags')
Row(Member_number='3781', Date=datetime.date(2015, 9, 23), items='frankfurter,
pip fruit')
Row (Member number='4088', Date=datetime.date(2015, 9, 23), items='canned
vegetables, whole milk')
Row(Member number='4102', Date=datetime.date(2015, 9, 23), items='frankfurter,
frozen dessert, other vegetables, cream cheese ')
Row(Member_number='4190', Date=datetime.date(2015, 9, 23), items='pip fruit,
citrus fruit')
Row(Member_number='4683', Date=datetime.date(2015, 9, 23), items='whipped/sour
cream, root vegetables')
Row(Member_number='4687', Date=datetime.date(2015, 9, 23), items='soda, other
vegetables, frozen vegetables')
Row(Member_number='4923', Date=datetime.date(2015, 9, 23), items='butter milk,
soups, canned fruit')
Row(Member_number='4967', Date=datetime.date(2015, 9, 23), items='pip fruit,
frankfurter, other vegetables, napkins')
```

```
Row(Member number='1222', Date=datetime.date(2015, 9, 24), items='condensed
milk, onions')
Row(Member number='1245', Date=datetime.date(2015, 9, 24), items='grapes, other
vegetables')
Row(Member number='1425', Date=datetime.date(2015, 9, 24), items='citrus fruit,
other vegetables')
Row(Member number='1793', Date=datetime.date(2015, 9, 24), items='ice cream,
rolls/buns')
Row(Member number='1900', Date=datetime.date(2015, 9, 24), items='hamburger
meat, yogurt')
Row(Member_number='2041', Date=datetime.date(2015, 9, 24), items='grapes')
Row(Member_number='2109', Date=datetime.date(2015, 9, 24), items='yogurt, male
cosmetics, sugar, salt')
Row(Member_number='2119', Date=datetime.date(2015, 9, 24), items='other
vegetables, meat, soda, whipped/sour cream')
Row(Member_number='2669', Date=datetime.date(2015, 9, 24), items='pip fruit,
onions')
Row(Member_number='2729', Date=datetime.date(2015, 9, 24), items='bottled water,
other vegetables')
Row(Member number='3463', Date=datetime.date(2015, 9, 24), items='tropical
fruit, yogurt')
Row(Member_number='3497', Date=datetime.date(2015, 9, 24), items='pip fruit,
other vegetables, whole milk, whipped/sour cream')
Row(Member_number='3537', Date=datetime.date(2015, 9, 24), items='brown bread,
curd')
Row(Member_number='3581', Date=datetime.date(2015, 9, 24), items='white bread,
baking powder')
Row(Member_number='3688', Date=datetime.date(2015, 9, 24), items='whole milk,
tropical fruit, rolls/buns, soap')
Row(Member_number='3787', Date=datetime.date(2015, 9, 24), items='pork, pip
fruit, yogurt, salty snack')
Row(Member_number='4155', Date=datetime.date(2015, 9, 24), items='sausage,
pork')
Row(Member_number='4161', Date=datetime.date(2015, 9, 24), items='whole milk,
fruit/vegetable juice')
Row(Member_number='4359', Date=datetime.date(2015, 9, 24), items='dessert,
berries, newspapers, onions')
Row(Member_number='4954', Date=datetime.date(2015, 9, 24), items='soda, whole
milk')
Row(Member_number='1097', Date=datetime.date(2015, 9, 25), items='frankfurter,
whipped/sour cream, bottled water')
Row(Member_number='1699', Date=datetime.date(2015, 9, 25), items='onions,
margarine, sweet spreads')
Row(Member_number='1882', Date=datetime.date(2015, 9, 25), items='fish,
chocolate')
Row(Member_number='1910', Date=datetime.date(2015, 9, 25), items='tropical
fruit, margarine')
Row(Member number='2210', Date=datetime.date(2015, 9, 25), items='pork, whole
```

```
milk, domestic eggs, sweet spreads')
Row(Member_number='2265', Date=datetime.date(2015, 9, 25), items='whole milk,
waffles, soft cheese, domestic eggs, dish cleaner, bathroom cleaner')
Row(Member_number='2592', Date=datetime.date(2015, 9, 25), items='pork, bottled
beer')
Row(Member_number='3082', Date=datetime.date(2015, 9, 25), items='brown bread,
packaged fruit/vegetables')
Row(Member_number='3151', Date=datetime.date(2015, 9, 25), items='bottled water,
dessert')
Row(Member_number='3679', Date=datetime.date(2015, 9, 25), items='onions, brown
bread, domestic eggs')
Row(Member number='3822', Date=datetime.date(2015, 9, 25), items='hamburger
meat, ice cream')
Row(Member_number='4235', Date=datetime.date(2015, 9, 25), items='beef, bottled
Row(Member_number='4288', Date=datetime.date(2015, 9, 25), items='meat, ham,
male cosmetics')
Row(Member number='4303', Date=datetime.date(2015, 9, 25), items='soda, semi-
finished bread')
Row(Member number='4336', Date=datetime.date(2015, 9, 25), items='beverages,
prosecco')
Row(Member number='4432', Date=datetime.date(2015, 9, 25), items='canned beer,
Row(Member_number='4640', Date=datetime.date(2015, 9, 25), items='root
vegetables, pip fruit')
Row(Member_number='4741', Date=datetime.date(2015, 9, 25), items='other
vegetables, whole milk')
Row(Member_number='1120', Date=datetime.date(2015, 9, 26), items='pastry,
condensed milk, rice, tropical fruit, chocolate marshmallow')
Row(Member_number='1137', Date=datetime.date(2015, 9, 26), items='whole milk,
other vegetables, sugar')
Row(Member_number='1200', Date=datetime.date(2015, 9, 26), items='candy,
dessert, rolls/buns, canned fish')
Row(Member_number='1318', Date=datetime.date(2015, 9, 26), items='pastry,
specialty bar, flour')
Row(Member_number='1759', Date=datetime.date(2015, 9, 26), items='bottled beer,
ham, other vegetables, pork, whole milk, oil, brown bread')
Row(Member_number='1784', Date=datetime.date(2015, 9, 26), items='bottled water,
curd, semi-finished bread')
Row(Member_number='1975', Date=datetime.date(2015, 9, 26), items='yogurt, root
vegetables')
Row(Member_number='2044', Date=datetime.date(2015, 9, 26), items='domestic eggs,
shopping bags')
Row(Member_number='2134', Date=datetime.date(2015, 9, 26), items='beef, liquor
(appetizer), frozen vegetables')
Row(Member number='2712', Date=datetime.date(2015, 9, 26), items='whole milk,
other vegetables')
Row(Member_number='2941', Date=datetime.date(2015, 9, 26), items='other
```

```
vegetables, yogurt')
Row(Member_number='2996', Date=datetime.date(2015, 9, 26), items='frankfurter,
dishes, hygiene articles')
Row(Member_number='3273', Date=datetime.date(2015, 9, 26), items='citrus fruit,
beef')
Row(Member number='3658', Date=datetime.date(2015, 9, 26), items='whole milk,
bottled beer, UHT-milk, beef, pip fruit, yogurt, salty snack')
Row(Member_number='3761', Date=datetime.date(2015, 9, 26), items='cat food,
bottled beer, beef, brown bread, margarine, rolls/buns')
Row(Member_number='3928', Date=datetime.date(2015, 9, 26), items='whole milk,
domestic eggs')
Row(Member_number='4719', Date=datetime.date(2015, 9, 26), items='tropical
fruit, specialty bar')
Row(Member_number='1098', Date=datetime.date(2015, 9, 27), items='root
vegetables, frozen vegetables, bottled water, cat food')
Row(Member_number='1148', Date=datetime.date(2015, 9, 27), items='soda, other
vegetables')
Row(Member_number='1539', Date=datetime.date(2015, 9, 27), items='pip fruit,
whipped/sour cream, rolls/buns')
Row(Member_number='1799', Date=datetime.date(2015, 9, 27), items='shopping bags,
whole milk')
Row(Member_number='1864', Date=datetime.date(2015, 9, 27), items='finished
products, whole milk')
Row(Member_number='2204', Date=datetime.date(2015, 9, 27), items='soda, liquor
(appetizer)')
Row(Member_number='2420', Date=datetime.date(2015, 9, 27), items='frankfurter,
hard cheese, frozen potato products, bottled water, shopping bags')
Row(Member_number='2631', Date=datetime.date(2015, 9, 27), items='sausage, root
vegetables')
Row(Member_number='3090', Date=datetime.date(2015, 9, 27), items='canned beer,
root vegetables')
Row(Member_number='3560', Date=datetime.date(2015, 9, 27), items='canned beer,
bottled beer, chocolate')
Row(Member_number='3612', Date=datetime.date(2015, 9, 27), items='sausage, other
vegetables')
Row(Member_number='3772', Date=datetime.date(2015, 9, 27), items='meat, cake
Row(Member_number='4108', Date=datetime.date(2015, 9, 27), items='pork, yogurt,
butter milk')
Row(Member_number='4764', Date=datetime.date(2015, 9, 27), items='soda, pip
fruit')
Row(Member number='1195', Date=datetime.date(2015, 9, 28), items='whole milk,
soft cheese')
Row(Member_number='1463', Date=datetime.date(2015, 9, 28), items='tropical
fruit, specialty bar')
Row(Member_number='1654', Date=datetime.date(2015, 9, 28), items='cream cheese,
rolls/buns')
Row(Member_number='1744', Date=datetime.date(2015, 9, 28), items='domestic eggs,
```

```
bottled beer')
Row(Member_number='1832', Date=datetime.date(2015, 9, 28), items='pork,
candles')
Row(Member_number='2140', Date=datetime.date(2015, 9, 28), items='onions, root
vegetables')
Row(Member_number='2202', Date=datetime.date(2015, 9, 28), items='frozen meals,
Row(Member_number='2305', Date=datetime.date(2015, 9, 28), items='coffee, whole
milk, mustard')
Row(Member_number='2460', Date=datetime.date(2015, 9, 28), items='canned beer,
grapes')
Row(Member_number='2565', Date=datetime.date(2015, 9, 28), items='sausage,
frozen dessert')
Row(Member number='2590', Date=datetime.date(2015, 9, 28), items='whole milk,
hamburger meat')
Row(Member number='2741', Date=datetime.date(2015, 9, 28), items='liver loaf,
bottled beer')
Row(Member number='2969', Date=datetime.date(2015, 9, 28), items='frozen meals,
other vegetables')
Row(Member number='3017', Date=datetime.date(2015, 9, 28), items='curd, tropical
Row(Member number='3306', Date=datetime.date(2015, 9, 28), items='spread cheese,
yogurt, frozen vegetables')
Row(Member_number='3401', Date=datetime.date(2015, 9, 28), items='sausage, root
vegetables')
Row(Member number='3704', Date=datetime.date(2015, 9, 28), items='whole milk,
vogurt')
Row(Member_number='3755', Date=datetime.date(2015, 9, 28), items='beef, butter
Row(Member_number='4509', Date=datetime.date(2015, 9, 28), items='sliced cheese,
soda')
Row(Member_number='4525', Date=datetime.date(2015, 9, 28), items='whole milk,
citrus fruit, light bulbs')
Row(Member_number='4585', Date=datetime.date(2015, 9, 28), items='sausage, pork,
butter milk, canned beer, whole milk, yogurt, rolls/buns')
Row(Member_number='4809', Date=datetime.date(2015, 9, 28), items='whole milk,
pip fruit')
Row(Member_number='1265', Date=datetime.date(2015, 9, 29), items='shopping bags,
tropical fruit, red/blush wine')
Row(Member_number='1302', Date=datetime.date(2015, 9, 29),
items='fruit/vegetable juice, root vegetables')
Row(Member_number='1382', Date=datetime.date(2015, 9, 29), items='coffee,
packaged fruit/vegetables')
Row(Member number='1494', Date=datetime.date(2015, 9, 29), items='whole milk,
canned beer, herbs, bottled beer')
Row(Member number='1764', Date=datetime.date(2015, 9, 29), items='whole milk,
other vegetables')
Row(Member_number='1918', Date=datetime.date(2015, 9, 29), items='tropical
```

```
fruit, butter milk')
Row(Member_number='2095', Date=datetime.date(2015, 9, 29), items='beverages,
other vegetables')
Row(Member_number='2151', Date=datetime.date(2015, 9, 29), items='napkins,
Row(Member_number='2435', Date=datetime.date(2015, 9, 29), items='beef, whole
Row(Member_number='2510', Date=datetime.date(2015, 9, 29), items='margarine,
soda, whole milk, house keeping products, cling film/bags, bottled water,
chocolate, frozen vegetables')
Row(Member_number='2517', Date=datetime.date(2015, 9, 29), items='other
vegetables, salt')
Row(Member_number='2794', Date=datetime.date(2015, 9, 29), items='sausage,
bottled beer, photo/film, margarine, whipped/sour cream')
Row(Member_number='3044', Date=datetime.date(2015, 9, 29), items='frozen meals,
bottled beer, root vegetables, potato products')
Row(Member_number='3202', Date=datetime.date(2015, 9, 29), items='ham, tropical
fruit')
Row(Member_number='3527', Date=datetime.date(2015, 9, 29), items='canned beer,
pip fruit, frozen vegetables, dessert, canned vegetables')
Row(Member_number='3545', Date=datetime.date(2015, 9, 29), items='butter,
berries, cereals')
Row(Member_number='3560', Date=datetime.date(2015, 9, 29), items='bottled water,
other vegetables, coffee, soda')
Row(Member_number='3657', Date=datetime.date(2015, 9, 29), items='liver loaf,
grapes, soda, photo/film')
Row(Member number='3982', Date=datetime.date(2015, 9, 29), items='root
vegetables, salt')
Row(Member_number='4085', Date=datetime.date(2015, 9, 29), items='canned beer,
newspapers')
Row(Member number='4095', Date=datetime.date(2015, 9, 29), items='beef, ham')
Row(Member_number='4326', Date=datetime.date(2015, 9, 29), items='pork, root
vegetables, rolls/buns')
Row(Member_number='4531', Date=datetime.date(2015, 9, 29), items='pork, meat')
Row(Member number='4745', Date=datetime.date(2015, 9, 29), items='ham,
rolls/buns, canned fish, shopping bags')
Row(Member number='4766', Date=datetime.date(2015, 9, 29), items='whole milk,
specialty chocolate, bottled beer, canned beer, rolls/buns')
Row(Member_number='1016', Date=datetime.date(2015, 9, 30), items='rolls/buns,
frankfurter, oil, pip fruit, mayonnaise')
Row(Member_number='1017', Date=datetime.date(2015, 9, 30), items='soda, dessert,
shopping bags')
Row(Member_number='1269', Date=datetime.date(2015, 9, 30), items='other
vegetables, whole milk, softener')
Row(Member_number='1603', Date=datetime.date(2015, 9, 30), items='frozen meals,
chicken, whipped/sour cream, whole milk, bottled beer')
Row(Member_number='1892', Date=datetime.date(2015, 9, 30), items='margarine,
citrus fruit, oil')
```

```
Row(Member_number='1943', Date=datetime.date(2015, 9, 30), items='tropical
fruit, whole milk, potato products')
Row(Member number='2071', Date=datetime.date(2015, 9, 30), items='whole milk,
canned beer')
Row(Member number='2193', Date=datetime.date(2015, 9, 30), items='citrus fruit,
whole milk')
Row(Member number='2266', Date=datetime.date(2015, 9, 30), items='other
vegetables, grapes, yogurt, butter milk, candy, soft cheese')
Row(Member_number='2270', Date=datetime.date(2015, 9, 30), items='berries, soda,
fruit/vegetable juice')
Row(Member_number='2727', Date=datetime.date(2015, 9, 30), items='frankfurter,
frozen meals')
Row(Member_number='2816', Date=datetime.date(2015, 9, 30), items='chicken, root
vegetables')
Row(Member_number='3117', Date=datetime.date(2015, 9, 30), items='citrus fruit,
pork, other vegetables, yogurt')
Row(Member_number='3164', Date=datetime.date(2015, 9, 30), items='butter, citrus
fruit, brown bread, pork, shopping bags, hygiene articles, dessert, whole milk')
Row(Member_number='3211', Date=datetime.date(2015, 9, 30), items='bathroom
cleaner, whole milk')
Row(Member_number='3345', Date=datetime.date(2015, 9, 30), items='soda, whole
milk')
Row(Member_number='3556', Date=datetime.date(2015, 9, 30), items='hamburger
meat, root vegetables, seasonal products, shopping bags')
Row(Member_number='3827', Date=datetime.date(2015, 9, 30), items='hamburger
meat, sausage, margarine, tropical fruit, pickled vegetables')
Row(Member_number='3859', Date=datetime.date(2015, 9, 30), items='canned beer,
nuts/prunes')
Row(Member_number='3915', Date=datetime.date(2015, 9, 30), items='frankfurter,
pip fruit, brown bread')
Row(Member_number='4092', Date=datetime.date(2015, 9, 30), items='berries,
sausage, tropical fruit, butter')
Row(Member_number='4274', Date=datetime.date(2015, 9, 30), items='frankfurter,
processed cheese')
Row(Member number='4293', Date=datetime.date(2015, 9, 30), items='mayonnaise,
misc. beverages, napkins')
Row(Member_number='4301', Date=datetime.date(2015, 9, 30), items='whipped/sour
cream, soda')
Row(Member_number='4381', Date=datetime.date(2015, 9, 30), items='bathroom
cleaner, other vegetables')
Row(Member_number='4632', Date=datetime.date(2015, 9, 30), items='frankfurter,
canned beer')
Row(Member_number='4906', Date=datetime.date(2015, 9, 30), items='soda, citrus
Row(Member_number='1043', Date=datetime.date(2015, 10, 1), items='citrus fruit,
rolls/buns, whole milk')
Row(Member_number='1214', Date=datetime.date(2015, 10, 1), items='meat, chicken,
yogurt, pip fruit')
```

```
Row(Member_number='1319', Date=datetime.date(2015, 10, 1), items='misc.
beverages, rice, soda')
Row(Member_number='1427', Date=datetime.date(2015, 10, 1), items='chicken, soda,
frozen meals')
Row(Member number='1878', Date=datetime.date(2015, 10, 1), items='sausage, soda,
candy')
Row(Member number='1909', Date=datetime.date(2015, 10, 1), items='sausage,
sliced cheese, salty snack')
Row(Member number='1968', Date=datetime.date(2015, 10, 1), items='zwieback,
tropical fruit')
Row(Member number='3337', Date=datetime.date(2015, 10, 1), items='bottled beer,
Row(Member_number='3953', Date=datetime.date(2015, 10, 1), items='pork,
berries')
Row(Member number='4015', Date=datetime.date(2015, 10, 1), items='curd, whole
Row(Member_number='4068', Date=datetime.date(2015, 10, 1), items='frankfurter,
yogurt')
Row(Member_number='4556', Date=datetime.date(2015, 10, 1), items='pip fruit,
canned beer')
Row(Member_number='4883', Date=datetime.date(2015, 10, 1), items='berries,
newspapers')
Row(Member_number='4981', Date=datetime.date(2015, 10, 1), items='frankfurter,
margarine, whole milk, soda, brown bread, frozen vegetables')
Row(Member_number='1003', Date=datetime.date(2015, 10, 2), items='sausage,
rolls/buns')
Row(Member number='1617', Date=datetime.date(2015, 10, 2), items='rolls/buns,
dessert')
Row(Member_number='1786', Date=datetime.date(2015, 10, 2), items='canned beer,
citrus fruit')
Row(Member number='1844', Date=datetime.date(2015, 10, 2), items='root
vegetables, grapes')
Row(Member_number='1874', Date=datetime.date(2015, 10, 2), items='frankfurter,
other vegetables')
Row(Member number='1991', Date=datetime.date(2015, 10, 2), items='pork,
specialty bar, soda')
Row(Member number='2069', Date=datetime.date(2015, 10, 2), items='pork,
specialty chocolate')
Row(Member_number='2136', Date=datetime.date(2015, 10, 2), items='bottled beer,
whole milk')
Row(Member_number='2170', Date=datetime.date(2015, 10, 2), items='bottled beer,
citrus fruit, frozen potato products, fruit/vegetable juice, sugar, sauces')
Row(Member_number='2192', Date=datetime.date(2015, 10, 2), items='frankfurter,
soda')
Row(Member_number='2404', Date=datetime.date(2015, 10, 2), items='beef, yogurt')
Row(Member_number='2997', Date=datetime.date(2015, 10, 2), items='fish,
specialty chocolate')
Row(Member number='3004', Date=datetime.date(2015, 10, 2), items='whole milk,
```

```
liquor (appetizer)')
Row(Member_number='3061', Date=datetime.date(2015, 10, 2), items='rolls/buns,
berries')
Row(Member_number='3669', Date=datetime.date(2015, 10, 2), items='citrus fruit,
white bread, processed cheese')
Row(Member_number='3694', Date=datetime.date(2015, 10, 2), items='rolls/buns')
Row(Member number='3786', Date=datetime.date(2015, 10, 2), items='light bulbs,
pastry, UHT-milk, baking powder')
Row(Member number='3939', Date=datetime.date(2015, 10, 2), items='curd, cake
bar, ketchup')
Row(Member_number='3954', Date=datetime.date(2015, 10, 2), items='canned beer,
onions')
Row(Member number='4064', Date=datetime.date(2015, 10, 2), items='citrus fruit,
coffee')
Row(Member_number='4165', Date=datetime.date(2015, 10, 2), items='domestic eggs,
roll products ')
Row(Member_number='4387', Date=datetime.date(2015, 10, 2), items='root
vegetables, baking powder')
Row(Member_number='4479', Date=datetime.date(2015, 10, 2), items='semi-finished
bread, margarine, butter')
Row(Member_number='4697', Date=datetime.date(2015, 10, 2), items='hamburger
meat, whole milk')
Row(Member_number='4734', Date=datetime.date(2015, 10, 2), items='sausage, pork,
yogurt, napkins')
Row(Member_number='4822', Date=datetime.date(2015, 10, 2), items='bottled water,
whole milk')
Row(Member_number='5000', Date=datetime.date(2015, 10, 2), items='soda, root
vegetables, semi-finished bread')
Row(Member_number='1211', Date=datetime.date(2015, 10, 3), items='frankfurter,
butter, specialty bar, yogurt')
Row(Member_number='1336', Date=datetime.date(2015, 10, 3), items='pet care,
flour, coffee, napkins')
Row(Member number='1374', Date=datetime.date(2015, 10, 3), items='whole milk,
salty snack, pip fruit')
Row(Member number='1508', Date=datetime.date(2015, 10, 3), items='pip fruit,
bottled beer')
Row(Member number='1606', Date=datetime.date(2015, 10, 3), items='ham, bottled
Row(Member_number='1659', Date=datetime.date(2015, 10, 3), items='yogurt,
tropical fruit')
Row(Member_number='1903', Date=datetime.date(2015, 10, 3), items='canned beer,
tropical fruit')
Row(Member_number='2406', Date=datetime.date(2015, 10, 3), items='meat,
rolls/buns, pastry')
Row(Member_number='2407', Date=datetime.date(2015, 10, 3), items='onions, citrus
fruit, frozen vegetables, coffee')
Row(Member_number='2981', Date=datetime.date(2015, 10, 3), items='UHT-milk,
whole milk')
```

```
Row(Member_number='3079', Date=datetime.date(2015, 10, 3), items='frankfurter,
soda')
Row(Member number='3544', Date=datetime.date(2015, 10, 3), items='whole milk,
hard cheese')
Row(Member number='3584', Date=datetime.date(2015, 10, 3), items='curd,
photo/film')
Row(Member number='3635', Date=datetime.date(2015, 10, 3), items='other
vegetables, rolls/buns')
Row(Member number='4566', Date=datetime.date(2015, 10, 3), items='canned beer,
butter')
Row(Member number='4833', Date=datetime.date(2015, 10, 3), items='onions, pip
fruit, dog food')
Row(Member number='1038', Date=datetime.date(2015, 10, 4), items='other
vegetables, specialty chocolate')
Row(Member_number='1324', Date=datetime.date(2015, 10, 4), items='specialty
chocolate, whole milk')
Row(Member_number='1357', Date=datetime.date(2015, 10, 4), items='soda, brown
Row(Member_number='1888', Date=datetime.date(2015, 10, 4), items='ham, whole
milk')
Row(Member_number='2074', Date=datetime.date(2015, 10, 4), items='citrus fruit,
canned beer, waffles, chocolate, dish cleaner')
Row(Member_number='2101', Date=datetime.date(2015, 10, 4), items='citrus fruit,
onions')
Row(Member_number='2233', Date=datetime.date(2015, 10, 4), items='whole milk,
bottled beer')
Row(Member_number='2291', Date=datetime.date(2015, 10, 4), items='grapes, canned
fish')
Row(Member_number='2492', Date=datetime.date(2015, 10, 4), items='frankfurter,
frozen vegetables')
Row(Member_number='2719', Date=datetime.date(2015, 10, 4), items='other
vegetables, whole milk')
Row(Member number='2781', Date=datetime.date(2015, 10, 4), items='bottled beer,
cream cheese , chocolate')
Row(Member number='2809', Date=datetime.date(2015, 10, 4), items='whole milk,
pork, other vegetables, domestic eggs')
Row(Member number='2877', Date=datetime.date(2015, 10, 4), items='pip fruit,
tropical fruit, waffles, root vegetables')
Row(Member_number='3082', Date=datetime.date(2015, 10, 4), items='root
vegetables, pip fruit')
Row(Member_number='3154', Date=datetime.date(2015, 10, 4), items='napkins, root
vegetables, sliced cheese')
Row(Member_number='3294', Date=datetime.date(2015, 10, 4), items='dessert,
onions')
Row(Member_number='4187', Date=datetime.date(2015, 10, 4), items='whole milk,
specialty cheese')
Row(Member_number='4252', Date=datetime.date(2015, 10, 4), items='turkey, frozen
potato products, butter, frozen dessert')
```

```
Row(Member_number='4636', Date=datetime.date(2015, 10, 4), items='frankfurter,
ham, tropical fruit, misc. beverages, photo/film, specialty chocolate, frozen
fish')
Row(Member_number='4717', Date=datetime.date(2015, 10, 4), items='tropical
fruit, yogurt, brown bread, shopping bags')
Row(Member_number='4937', Date=datetime.date(2015, 10, 4), items='chicken,
coffee, newspapers')
Row(Member_number='1349', Date=datetime.date(2015, 10, 5), items='canned beer,
shopping bags')
Row(Member_number='1373', Date=datetime.date(2015, 10, 5), items='brown bread,
sausage, yogurt, butter milk, canned beer, frozen vegetables, curd, cake bar')
Row(Member_number='1841', Date=datetime.date(2015, 10, 5), items='pip fruit,
margarine')
Row(Member_number='1996', Date=datetime.date(2015, 10, 5), items='canned beer,
roll products , root vegetables, flower (seeds)')
Row(Member number='2102', Date=datetime.date(2015, 10, 5), items='rolls/buns,
soda, other vegetables, vinegar')
Row(Member number='2294', Date=datetime.date(2015, 10, 5), items='rolls/buns,
pip fruit')
Row(Member number='2319', Date=datetime.date(2015, 10, 5), items='whole milk,
meat, yogurt')
Row(Member number='2337', Date=datetime.date(2015, 10, 5), items='citrus fruit,
Row(Member_number='3343', Date=datetime.date(2015, 10, 5), items='frankfurter,
specialty bar')
Row(Member number='3387', Date=datetime.date(2015, 10, 5), items='soda, whole
milk')
Row(Member number='3429', Date=datetime.date(2015, 10, 5), items='cat food,
sparkling wine')
Row(Member number='3469', Date=datetime.date(2015, 10, 5), items='hamburger
meat, yogurt, curd cheese, frozen meals, mustard, soda, white wine, butter')
Row(Member_number='3553', Date=datetime.date(2015, 10, 5), items='coffee, other
vegetables')
Row(Member_number='3851', Date=datetime.date(2015, 10, 5), items='whole milk,
butter')
Row(Member_number='3920', Date=datetime.date(2015, 10, 5), items='beverages,
margarine, napkins')
Row(Member_number='4004', Date=datetime.date(2015, 10, 5), items='tropical
fruit, sausage, ham, root vegetables, turkey, pastry, pasta, soda')
Row(Member_number='4191', Date=datetime.date(2015, 10, 5), items='pork, long
life bakery product')
Row(Member_number='4515', Date=datetime.date(2015, 10, 5), items='other
vegetables, yogurt')
Row(Member_number='4529', Date=datetime.date(2015, 10, 5), items='tropical
fruit, other vegetables')
Row(Member_number='4661', Date=datetime.date(2015, 10, 5), items='other
vegetables, salty snack')
Row(Member_number='4859', Date=datetime.date(2015, 10, 5), items='beef, soda')
```

```
Row(Member number='1175', Date=datetime.date(2015, 10, 6), items='whole milk,
citrus fruit, shopping bags, white wine, soda, yogurt')
Row(Member_number='1908', Date=datetime.date(2015, 10, 6), items='beef, female
sanitary products')
Row(Member number='2494', Date=datetime.date(2015, 10, 6), items='chicken,
margarine, yogurt')
Row(Member number='3232', Date=datetime.date(2015, 10, 6), items='whole milk,
ice cream')
Row(Member number='3337', Date=datetime.date(2015, 10, 6), items='citrus fruit,
root vegetables, whole milk, chewing gum, coffee, shopping bags')
Row(Member number='3434', Date=datetime.date(2015, 10, 6), items='chicken,
butter, rolls/buns, shopping bags, soda')
Row(Member_number='3475', Date=datetime.date(2015, 10, 6), items='bottled beer,
brown bread, whole milk, misc. beverages')
Row(Member_number='3592', Date=datetime.date(2015, 10, 6), items='sausage,
bottled beer')
Row(Member_number='3683', Date=datetime.date(2015, 10, 6), items='specialty bar,
candy, root vegetables, ice cream')
Row(Member_number='3973', Date=datetime.date(2015, 10, 6), items='rolls/buns,
curd, cat food')
Row(Member_number='4335', Date=datetime.date(2015, 10, 6), items='sausage, other
vegetables, shopping bags, napkins')
Row(Member_number='4442', Date=datetime.date(2015, 10, 6), items='berries, other
vegetables, fruit/vegetable juice, whole milk, specialty bar')
Row(Member_number='4796', Date=datetime.date(2015, 10, 6), items='frankfurter,
soda, whole milk, flour')
Row(Member_number='4954', Date=datetime.date(2015, 10, 6), items='beverages,
UHT-milk')
Row(Member_number='1114', Date=datetime.date(2015, 10, 7), items='misc.
beverages, UHT-milk, white bread')
Row(Member_number='1135', Date=datetime.date(2015, 10, 7), items='sausage,
shopping bags, soda, butter, dessert')
Row(Member_number='1286', Date=datetime.date(2015, 10, 7), items='meat, coffee')
Row(Member_number='1324', Date=datetime.date(2015, 10, 7), items='citrus fruit,
bottled water, white wine, rolls/buns')
Row(Member_number='1330', Date=datetime.date(2015, 10, 7), items='newspapers,
processed cheese')
Row(Member_number='1534', Date=datetime.date(2015, 10, 7), items='shopping bags,
dessert, other vegetables, bottled water, margarine')
Row(Member_number='1584', Date=datetime.date(2015, 10, 7), items='yogurt, long
life bakery product, onions, hygiene articles, sugar')
Row(Member number='1777', Date=datetime.date(2015, 10, 7), items='whole milk,
pastry, fruit/vegetable juice')
Row(Member_number='1929', Date=datetime.date(2015, 10, 7), items='rolls/buns,
bottled water, other vegetables, finished products, butter, yogurt, citrus
Row(Member_number='2195', Date=datetime.date(2015, 10, 7), items='tropical
fruit, canned fish')
```

```
Row(Member number='2586', Date=datetime.date(2015, 10, 7), items='UHT-milk,
tropical fruit')
Row(Member_number='2633', Date=datetime.date(2015, 10, 7), items='hard cheese,
rolls/buns, white wine')
Row(Member number='2648', Date=datetime.date(2015, 10, 7), items='tropical
fruit, root vegetables')
Row(Member number='3041', Date=datetime.date(2015, 10, 7), items='other
vegetables, berries, organic products')
Row(Member_number='3637', Date=datetime.date(2015, 10, 7), items='sausage,
citrus fruit, whole milk, butter milk, salty snack, dessert, specialty
chocolate')
Row(Member number='3829', Date=datetime.date(2015, 10, 7), items='pickled
vegetables, soda, chewing gum, yogurt')
Row(Member_number='3830', Date=datetime.date(2015, 10, 7), items='soda, packaged
fruit/vegetables, butter milk')
Row(Member_number='3908', Date=datetime.date(2015, 10, 7), items='sausage, pot
plants')
Row(Member_number='4487', Date=datetime.date(2015, 10, 7), items='sausage, tea')
Row(Member_number='4589', Date=datetime.date(2015, 10, 7), items='white bread,
frozen vegetables, soda')
Row(Member number='4660', Date=datetime.date(2015, 10, 7), items='frozen
vegetables, dishes, root vegetables, pastry')
Row(Member_number='4740', Date=datetime.date(2015, 10, 7), items='coffee, other
vegetables, margarine, domestic eggs')
Row(Member_number='1024', Date=datetime.date(2015, 10, 8), items='fish, root
vegetables, tropical fruit, other vegetables')
Row(Member number='1155', Date=datetime.date(2015, 10, 8), items='whole milk,
house keeping products')
Row(Member number='1857', Date=datetime.date(2015, 10, 8), items='pip fruit,
long life bakery product')
Row(Member_number='2128', Date=datetime.date(2015, 10, 8), items='sausage,
Row(Member_number='2278', Date=datetime.date(2015, 10, 8), items='shopping bags,
coffee')
Row(Member number='2721', Date=datetime.date(2015, 10, 8), items='cream cheese,
frankfurter, root vegetables, yogurt')
Row(Member number='2743', Date=datetime.date(2015, 10, 8), items='soda,
specialty cheese, candy')
Row(Member_number='2918', Date=datetime.date(2015, 10, 8), items='whole milk,
ham')
Row(Member_number='3050', Date=datetime.date(2015, 10, 8), items='whole milk,
chocolate, roll products ')
Row(Member_number='3097', Date=datetime.date(2015, 10, 8), items='berries, brown
bread')
Row(Member_number='3797', Date=datetime.date(2015, 10, 8), items='other
vegetables')
Row(Member_number='4032', Date=datetime.date(2015, 10, 8), items='other
vegetables, sausage')
```

```
Row(Member_number='4220', Date=datetime.date(2015, 10, 8), items='tropical
fruit, canned beer, detergent, bottled water')
Row(Member_number='4531', Date=datetime.date(2015, 10, 8), items='canned beer,
brown bread, herbs, pastry')
Row(Member number='4643', Date=datetime.date(2015, 10, 8), items='ice cream,
photo/film, flour')
Row(Member number='4895', Date=datetime.date(2015, 10, 8), items='canned beer,
cereals')
Row(Member number='1279', Date=datetime.date(2015, 10, 9), items='beverages,
sausage, whole milk, citrus fruit')
Row(Member number='1719', Date=datetime.date(2015, 10, 9), items='coffee, whole
milk')
Row(Member number='1818', Date=datetime.date(2015, 10, 9), items='red/blush
wine, specialty bar, rolls/buns')
Row(Member_number='1857', Date=datetime.date(2015, 10, 9), items='pork, pip
fruit, chocolate')
Row(Member_number='2063', Date=datetime.date(2015, 10, 9), items='newspapers,
soups')
Row(Member_number='2290', Date=datetime.date(2015, 10, 9), items='other
vegetables, pip fruit')
Row(Member number='2524', Date=datetime.date(2015, 10, 9), items='citrus fruit,
beef, whipped/sour cream, dishes, bottled beer, whole milk')
Row(Member_number='2663', Date=datetime.date(2015, 10, 9), items='chicken,
pastry')
Row(Member_number='2675', Date=datetime.date(2015, 10, 9), items='margarine,
rolls/buns')
Row(Member_number='2716', Date=datetime.date(2015, 10, 9), items='tropical
fruit, rolls/buns, zwieback')
Row(Member number='2799', Date=datetime.date(2015, 10, 9), items='citrus fruit,
pickled vegetables')
Row(Member_number='2815', Date=datetime.date(2015, 10, 9), items='root
vegetables, beef')
Row(Member number='3251', Date=datetime.date(2015, 10, 9), items='soda, other
vegetables')
Row(Member number='3254', Date=datetime.date(2015, 10, 9), items='frankfurter,
brown bread')
Row(Member number='3456', Date=datetime.date(2015, 10, 9), items='whipped/sour
cream, sausage, root vegetables, soda')
Row(Member_number='3593', Date=datetime.date(2015, 10, 9), items='pork, whole
milk, other vegetables')
Row(Member_number='3896', Date=datetime.date(2015, 10, 9), items='sausage,
dessert')
Row(Member number='4074', Date=datetime.date(2015, 10, 9), items='whole milk,
Row(Member_number='4331', Date=datetime.date(2015, 10, 9), items='sausage,
sugar')
Row(Member_number='4336', Date=datetime.date(2015, 10, 9), items='beef, soda')
Row(Member_number='4567', Date=datetime.date(2015, 10, 9), items='tropical
```

```
fruit, rolls/buns')
Row(Member_number='1497', Date=datetime.date(2015, 10, 10), items='butter milk,
margarine')
Row(Member_number='1639', Date=datetime.date(2015, 10, 10), items='frankfurter,
tropical fruit, mustard')
Row(Member_number='1782', Date=datetime.date(2015, 10, 10), items='pork,
rolls/buns')
Row(Member_number='2200', Date=datetime.date(2015, 10, 10), items='soft cheese,
pork, white bread, fruit/vegetable juice')
Row(Member_number='2340', Date=datetime.date(2015, 10, 10), items='pip fruit,
whole milk')
Row(Member_number='2466', Date=datetime.date(2015, 10, 10), items='citrus fruit,
whole milk, bottled water')
Row(Member_number='2505', Date=datetime.date(2015, 10, 10), items='butter,
whipped/sour cream, rolls/buns')
Row(Member_number='2623', Date=datetime.date(2015, 10, 10), items='processed
cheese, whole milk, rolls/buns, margarine')
Row(Member number='2742', Date=datetime.date(2015, 10, 10), items='misc.
beverages, dessert, spread cheese, onions, coffee')
Row(Member_number='2752', Date=datetime.date(2015, 10, 10), items='sausage,
berries')
Row(Member number='2950', Date=datetime.date(2015, 10, 10), items='coffee,
bottled water, roll products ')
Row(Member_number='3015', Date=datetime.date(2015, 10, 10), items='sausage,
white bread, coffee')
Row(Member_number='3449', Date=datetime.date(2015, 10, 10), items='whole milk,
white bread')
Row(Member number='3484', Date=datetime.date(2015, 10, 10), items='sausage,
Row(Member_number='3779', Date=datetime.date(2015, 10, 10), items='yogurt,
domestic eggs')
Row(Member_number='4138', Date=datetime.date(2015, 10, 10), items='whole milk,
other vegetables')
Row(Member_number='4267', Date=datetime.date(2015, 10, 10), items='fish, bottled
Row(Member_number='4336', Date=datetime.date(2015, 10, 10), items='sausage,
rolls/buns, pot plants, snack products')
Row(Member_number='4357', Date=datetime.date(2015, 10, 10), items='processed
cheese, brown bread, house keeping products')
Row(Member_number='4573', Date=datetime.date(2015, 10, 10), items='frankfurter,
whole milk, margarine')
Row(Member_number='4783', Date=datetime.date(2015, 10, 10), items='bottled beer,
curd, kitchen towels')
Row(Member number='4953', Date=datetime.date(2015, 10, 10), items='tropical
fruit, mayonnaise, other vegetables, meat, roll products, napkins, frozen
meals, newspapers')
Row(Member_number='1051', Date=datetime.date(2015, 10, 11), items='fish,
tropical fruit, red/blush wine, cream cheese ')
```

```
Row(Member_number='1058', Date=datetime.date(2015, 10, 11), items='root
vegetables, other vegetables')
Row(Member number='1608', Date=datetime.date(2015, 10, 11), items='tropical
fruit, frozen vegetables, whole milk, snack products')
Row(Member number='1688', Date=datetime.date(2015, 10, 11), items='finished
products, root vegetables')
Row(Member number='2191', Date=datetime.date(2015, 10, 11), items='specialty
cheese, misc. beverages')
Row(Member_number='2299', Date=datetime.date(2015, 10, 11), items='turkey,
newspapers')
Row(Member number='2454', Date=datetime.date(2015, 10, 11), items='frankfurter,
sausage, whole milk, domestic eggs, fruit/vegetable juice')
Row(Member_number='2475', Date=datetime.date(2015, 10, 11), items='beverages,
domestic eggs, soda, butter milk')
Row(Member_number='2492', Date=datetime.date(2015, 10, 11), items='root
vegetables, whole milk')
Row(Member_number='2535', Date=datetime.date(2015, 10, 11), items='frankfurter,
whole milk, other vegetables, root vegetables')
Row(Member_number='2730', Date=datetime.date(2015, 10, 11), items='beef, root
vegetables, frozen potato products, butter, newspapers')
Row(Member_number='2838', Date=datetime.date(2015, 10, 11), items='rolls/buns,
bottled water, vinegar')
Row(Member_number='3048', Date=datetime.date(2015, 10, 11), items='sausage,
white bread')
Row(Member_number='3507', Date=datetime.date(2015, 10, 11), items='whole milk,
pip fruit, frozen vegetables, soda')
Row(Member number='3694', Date=datetime.date(2015, 10, 11), items='chicken,
other vegetables')
Row(Member number='3716', Date=datetime.date(2015, 10, 11), items='tropical
fruit, cake bar')
Row(Member number='3764', Date=datetime.date(2015, 10, 11), items='ice cream,
dog food')
Row(Member number='3779', Date=datetime.date(2015, 10, 11), items='ham, white
bread, long life bakery product')
Row(Member number='3942', Date=datetime.date(2015, 10, 11), items='other
vegetables, rolls/buns')
Row(Member number='4334', Date=datetime.date(2015, 10, 11), items='berries,
fruit/vegetable juice')
Row(Member_number='4474', Date=datetime.date(2015, 10, 11), items='pastry, brown
bread')
Row(Member_number='4679', Date=datetime.date(2015, 10, 11), items='chicken,
waffles, pip fruit, tropical fruit, pastry, bottled water, shopping bags')
Row(Member_number='1199', Date=datetime.date(2015, 10, 12), items='sugar, canned
vegetables, flour, bottled water, salty snack')
Row(Member_number='2166', Date=datetime.date(2015, 10, 12), items='sausage,
other vegetables, waffles')
Row(Member_number='2673', Date=datetime.date(2015, 10, 12), items='yogurt,
canned beer')
```

```
Row(Member number='2869', Date=datetime.date(2015, 10, 12), items='beef,
tropical fruit, root vegetables, whole milk, cream cheese, newspapers')
Row(Member number='3048', Date=datetime.date(2015, 10, 12), items='chicken,
rolls/buns, liquor (appetizer), pip fruit, hygiene articles')
Row(Member number='3634', Date=datetime.date(2015, 10, 12), items='citrus fruit,
frozen vegetables')
Row(Member number='4117', Date=datetime.date(2015, 10, 12), items='canned beer,
organic sausage, tropical fruit, shopping bags')
Row(Member_number='4474', Date=datetime.date(2015, 10, 12), items='whole milk,
canned beer, specialty bar, sugar, detergent')
Row(Member_number='4524', Date=datetime.date(2015, 10, 12), items='whole milk,
ice cream')
Row(Member number='4575', Date=datetime.date(2015, 10, 12), items='ice cream,
other vegetables')
Row(Member_number='4628', Date=datetime.date(2015, 10, 12), items='fish, soda,
bottled beer')
Row(Member_number='4938', Date=datetime.date(2015, 10, 12), items='whole milk,
other vegetables')
Row(Member_number='1020', Date=datetime.date(2015, 10, 13), items='canned beer,
spices, rolls/buns, frozen fish')
Row(Member_number='1588', Date=datetime.date(2015, 10, 13), items='sausage,
zwieback, jam')
Row(Member_number='1599', Date=datetime.date(2015, 10, 13), items='sausage,
soda')
Row(Member_number='1780', Date=datetime.date(2015, 10, 13), items='canned fish')
Row(Member_number='2100', Date=datetime.date(2015, 10, 13), items='frankfurter,
citrus fruit, whole milk')
Row(Member_number='3095', Date=datetime.date(2015, 10, 13), items='citrus fruit,
whole milk, bottled beer')
Row(Member_number='3122', Date=datetime.date(2015, 10, 13), items='citrus fruit,
canned fruit, pip fruit, dessert')
Row(Member_number='3206', Date=datetime.date(2015, 10, 13), items='frankfurter,
tropical fruit')
Row(Member_number='3312', Date=datetime.date(2015, 10, 13), items='domestic
eggs, berries')
Row(Member_number='3748', Date=datetime.date(2015, 10, 13), items='packaged
fruit/vegetables, canned beer')
Row(Member_number='4236', Date=datetime.date(2015, 10, 13), items='tropical
fruit, canned beer')
Row(Member_number='4528', Date=datetime.date(2015, 10, 13), items='whole milk,
yogurt')
Row(Member number='4695', Date=datetime.date(2015, 10, 13), items='tropical
fruit, brandy, whole milk, canned fish')
Row(Member_number='4722', Date=datetime.date(2015, 10, 13), items='sausage,
other vegetables')
Row(Member_number='4805', Date=datetime.date(2015, 10, 13), items='other
vegetables, whole milk')
Row(Member number='1076', Date=datetime.date(2015, 10, 14), items='ham, whole
```

```
milk, coffee')
Row(Member_number='1177', Date=datetime.date(2015, 10, 14), items='rolls/buns,
canned beer, brown bread, dessert')
Row(Member_number='1231', Date=datetime.date(2015, 10, 14), items='sausage, root
vegetables')
Row(Member_number='1363', Date=datetime.date(2015, 10, 14), items='whole milk,
margarine, canned vegetables')
Row(Member_number='1444', Date=datetime.date(2015, 10, 14), items='hamburger
meat, whole milk, root vegetables, hygiene articles, brown bread')
Row(Member_number='1746', Date=datetime.date(2015, 10, 14), items='whole milk,
UHT-milk')
Row(Member_number='1812', Date=datetime.date(2015, 10, 14), items='hamburger
meat, soft cheese, yogurt, margarine')
Row(Member_number='1976', Date=datetime.date(2015, 10, 14), items='other
vegetables, root vegetables, bottled water')
Row(Member_number='2071', Date=datetime.date(2015, 10, 14), items='beef, whole
milk')
Row(Member_number='2537', Date=datetime.date(2015, 10, 14), items='other
vegetables, curd')
Row(Member number='2710', Date=datetime.date(2015, 10, 14), items='frankfurter,
long life bakery product')
Row(Member number='2988', Date=datetime.date(2015, 10, 14), items='bottled beer,
yogurt')
Row(Member_number='3220', Date=datetime.date(2015, 10, 14), items='pork,
finished products, citrus fruit, misc. beverages')
Row(Member number='3351', Date=datetime.date(2015, 10, 14), items='pork,
margarine, other vegetables')
Row(Member_number='3681', Date=datetime.date(2015, 10, 14), items='whole milk,
soft cheese, frozen vegetables')
Row(Member_number='3831', Date=datetime.date(2015, 10, 14), items='UHT-milk,
bottled beer, domestic eggs, rolls/buns')
Row(Member_number='3842', Date=datetime.date(2015, 10, 14), items='other
vegetables, white bread, whole milk')
Row(Member_number='4201', Date=datetime.date(2015, 10, 14), items='tropical
fruit, house keeping products')
Row(Member_number='4284', Date=datetime.date(2015, 10, 14), items='pip fruit,
sausage, red/blush wine, coffee, salt, pastry')
Row(Member_number='4325', Date=datetime.date(2015, 10, 14), items='yogurt,
beef')
Row(Member_number='4656', Date=datetime.date(2015, 10, 14), items='frankfurter,
grapes')
Row(Member_number='4848', Date=datetime.date(2015, 10, 14), items='rolls/buns,
canned beer')
Row(Member_number='4939', Date=datetime.date(2015, 10, 14), items='citrus fruit,
other vegetables')
Row(Member_number='4998', Date=datetime.date(2015, 10, 14), items='rolls/buns,
curd')
Row(Member_number='1031', Date=datetime.date(2015, 10, 15), items='other
```

```
vegetables, berries')
Row(Member_number='1127', Date=datetime.date(2015, 10, 15), items='other
vegetables, butter, pastry, UHT-milk')
Row(Member_number='1144', Date=datetime.date(2015, 10, 15), items='hard cheese,
root vegetables, white bread')
Row(Member_number='1565', Date=datetime.date(2015, 10, 15), items='pork, whole
milk, other vegetables, tidbits, coffee')
Row(Member_number='1721', Date=datetime.date(2015, 10, 15), items='other
vegetables, rolls/buns, whole milk, margarine')
Row(Member_number='1881', Date=datetime.date(2015, 10, 15), items='beverages,
bottled water')
Row(Member_number='1980', Date=datetime.date(2015, 10, 15), items='bottled
water, brown bread')
Row(Member_number='1987', Date=datetime.date(2015, 10, 15), items='citrus fruit,
pork, napkins, domestic eggs')
Row(Member_number='2089', Date=datetime.date(2015, 10, 15), items='whole milk,
cream cheese ')
Row(Member number='2250', Date=datetime.date(2015, 10, 15), items='waffles,
whole milk')
Row(Member number='2404', Date=datetime.date(2015, 10, 15), items='pip fruit,
whole milk')
Row(Member number='2447', Date=datetime.date(2015, 10, 15), items='frankfurter,
root vegetables')
Row(Member number='3075', Date=datetime.date(2015, 10, 15), items='other
vegetables, semi-finished bread')
Row(Member_number='3111', Date=datetime.date(2015, 10, 15), items='newspapers,
whole milk')
Row(Member number='3182', Date=datetime.date(2015, 10, 15), items='soda,
zwieback, pastry')
Row(Member number='3328', Date=datetime.date(2015, 10, 15), items='cream cheese
, soda')
Row(Member_number='3595', Date=datetime.date(2015, 10, 15), items='other
vegetables, zwieback')
Row(Member_number='3802', Date=datetime.date(2015, 10, 15), items='citrus fruit,
whipped/sour cream')
Row(Member_number='3885', Date=datetime.date(2015, 10, 15), items='canned beer,
rolls/buns')
Row(Member_number='4071', Date=datetime.date(2015, 10, 15), items='butter,
onions, napkins')
Row(Member_number='4677', Date=datetime.date(2015, 10, 15), items='frankfurter,
rolls/buns, salt')
Row(Member_number='1042', Date=datetime.date(2015, 10, 16), items='whole milk,
other vegetables')
Row(Member_number='1074', Date=datetime.date(2015, 10, 16),
items='fruit/vegetable juice, flower (seeds)')
Row(Member_number='1926', Date=datetime.date(2015, 10, 16), items='turkey, whole
milk')
Row(Member number='2078', Date=datetime.date(2015, 10, 16), items='tropical
```

```
fruit, pork, newspapers')
Row(Member_number='2089', Date=datetime.date(2015, 10, 16), items='grapes,
curd')
Row(Member_number='2526', Date=datetime.date(2015, 10, 16), items='coffee,
yogurt')
Row(Member_number='2658', Date=datetime.date(2015, 10, 16), items='butter milk,
canned beer, yogurt, semi-finished bread, margarine')
Row(Member_number='3651', Date=datetime.date(2015, 10, 16), items='rolls/buns,
newspapers')
Row(Member_number='4024', Date=datetime.date(2015, 10, 16), items='pork,
margarine, other vegetables')
Row(Member number='4041', Date=datetime.date(2015, 10, 16), items='soda, frozen
potato products, white wine')
Row(Member number='4067', Date=datetime.date(2015, 10, 16), items='domestic
eggs, pastry')
Row(Member_number='4204', Date=datetime.date(2015, 10, 16), items='whole milk,
curd, rolls/buns')
Row(Member_number='4219', Date=datetime.date(2015, 10, 16), items='rolls/buns,
long life bakery product')
Row(Member number='4262', Date=datetime.date(2015, 10, 16), items='meat,
rolls/buns')
Row(Member number='4424', Date=datetime.date(2015, 10, 16), items='beef,
ketchup, pork, hygiene articles')
Row(Member_number='4531', Date=datetime.date(2015, 10, 16), items='bottled
water, onions')
Row(Member_number='4635', Date=datetime.date(2015, 10, 16), items='butter,
sugar')
Row(Member_number='4885', Date=datetime.date(2015, 10, 16), items='whole milk,
whipped/sour cream')
Row(Member_number='1158', Date=datetime.date(2015, 10, 17), items='rolls/buns,
other vegetables, butter, root vegetables')
Row(Member_number='1491', Date=datetime.date(2015, 10, 17), items='root
vegetables, other vegetables')
Row(Member_number='1545', Date=datetime.date(2015, 10, 17), items='whole milk,
frozen vegetables, semi-finished bread')
Row(Member_number='1773', Date=datetime.date(2015, 10, 17), items='frankfurter,
pip fruit')
Row(Member_number='1878', Date=datetime.date(2015, 10, 17), items='sausage,
onions, misc. beverages')
Row(Member_number='1937', Date=datetime.date(2015, 10, 17), items='whole milk,
canned beer, newspapers, whipped/sour cream')
Row(Member_number='2206', Date=datetime.date(2015, 10, 17), items='ham,
rolls/buns')
Row(Member number='2231', Date=datetime.date(2015, 10, 17), items='frankfurter,
soda, napkins')
Row(Member_number='2369', Date=datetime.date(2015, 10, 17), items='hamburger
meat, whipped/sour cream')
Row(Member number='2524', Date=datetime.date(2015, 10, 17), items='frankfurter,
```

```
citrus fruit')
Row(Member_number='2535', Date=datetime.date(2015, 10, 17), items='canned beer,
frozen vegetables')
Row(Member_number='2690', Date=datetime.date(2015, 10, 17), items='canned beer,
liquor')
Row(Member_number='2779', Date=datetime.date(2015, 10, 17), items='whole milk,
yogurt, root vegetables, white bread, shopping bags, other vegetables')
Row(Member_number='2796', Date=datetime.date(2015, 10, 17), items='other
vegetables, pork, rolls/buns')
Row(Member_number='2968', Date=datetime.date(2015, 10, 17), items='soda,
shopping bags')
Row(Member_number='3089', Date=datetime.date(2015, 10, 17), items='citrus fruit,
soda')
Row(Member_number='3568', Date=datetime.date(2015, 10, 17), items='other
vegetables, bottled beer')
Row(Member_number='3843', Date=datetime.date(2015, 10, 17), items='ice cream,
flower (seeds)')
Row(Member number='4425', Date=datetime.date(2015, 10, 17), items='butter milk,
whole milk')
Row(Member number='4552', Date=datetime.date(2015, 10, 17), items='whole milk,
root vegetables')
Row(Member number='1048', Date=datetime.date(2015, 10, 18), items='rolls/buns,
tropical fruit')
Row(Member_number='1275', Date=datetime.date(2015, 10, 18), items='white bread,
specialty chocolate')
Row(Member number='1335', Date=datetime.date(2015, 10, 18), items='whipped/sour
cream, grapes, yogurt, spread cheese')
Row(Member_number='1865', Date=datetime.date(2015, 10, 18), items='ham, dessert,
Row(Member_number='1905', Date=datetime.date(2015, 10, 18), items='soda, onions,
cream cheese ')
Row(Member number='2167', Date=datetime.date(2015, 10, 18), items='tropical
fruit, mayonnaise, liquor')
Row(Member_number='2241', Date=datetime.date(2015, 10, 18), items='ham, frozen
meals')
Row(Member_number='2700', Date=datetime.date(2015, 10, 18), items='candy,
specialty cheese')
Row(Member_number='2707', Date=datetime.date(2015, 10, 18), items='domestic
eggs, pastry')
Row(Member_number='2785', Date=datetime.date(2015, 10, 18), items='tropical
fruit, pork')
Row(Member number='2940', Date=datetime.date(2015, 10, 18), items='frankfurter,
rolls/buns')
Row(Member_number='3355', Date=datetime.date(2015, 10, 18), items='pork, brown
bread')
Row(Member_number='3692', Date=datetime.date(2015, 10, 18), items='bottled
water, processed cheese, packaged fruit/vegetables, yogurt')
Row(Member number='3718', Date=datetime.date(2015, 10, 18), items='berries,
```

```
rolls/buns')
Row(Member_number='3830', Date=datetime.date(2015, 10, 18), items='frankfurter,
coffee')
Row(Member_number='4031', Date=datetime.date(2015, 10, 18), items='sausage,
soda')
Row(Member_number='4281', Date=datetime.date(2015, 10, 18), items='shopping
bags, soda')
Row(Member_number='4469', Date=datetime.date(2015, 10, 18), items='fish, root
vegetables, chocolate')
Row(Member_number='4527', Date=datetime.date(2015, 10, 18), items='soda,
tropical fruit')
Row(Member_number='4746', Date=datetime.date(2015, 10, 18), items='meat, ham')
Row(Member_number='1322', Date=datetime.date(2015, 10, 19), items='pork,
rolls/buns, specialty bar, hygiene articles')
Row(Member_number='1438', Date=datetime.date(2015, 10, 19), items='tropical
fruit, whole milk')
Row(Member_number='1899', Date=datetime.date(2015, 10, 19), items='long life
bakery product, butter milk, Instant food products')
Row(Member_number='2091', Date=datetime.date(2015, 10, 19), items='pet care,
brown bread, pastry, dish cleaner')
Row(Member_number='2191', Date=datetime.date(2015, 10, 19), items='beef, root
vegetables')
Row(Member_number='2433', Date=datetime.date(2015, 10, 19), items='bottled
water, onions, root vegetables, grapes')
Row(Member_number='2528', Date=datetime.date(2015, 10, 19), items='tropical
fruit, margarine')
Row(Member number='3014', Date=datetime.date(2015, 10, 19), items='sausage,
chocolate, newspapers, pastry')
Row(Member_number='3025', Date=datetime.date(2015, 10, 19), items='turkey,
herbs, white bread')
Row(Member number='3180', Date=datetime.date(2015, 10, 19), items='root
vegetables, pastry, rolls/buns, condensed milk, tropical fruit, bathroom
cleaner, waffles, canned beer')
Row(Member_number='3254', Date=datetime.date(2015, 10, 19), items='photo/film,
soda, cream cheese ')
Row(Member_number='3882', Date=datetime.date(2015, 10, 19), items='frankfurter,
UHT-milk')
Row(Member_number='3971', Date=datetime.date(2015, 10, 19), items='frankfurter,
rolls/buns')
Row(Member_number='4260', Date=datetime.date(2015, 10, 19), items='frozen
vegetables, whipped/sour cream')
Row(Member_number='4312', Date=datetime.date(2015, 10, 19), items='bottled
water, long life bakery product, soda')
Row(Member_number='4557', Date=datetime.date(2015, 10, 19), items='turkey,
packaged fruit/vegetables')
Row(Member_number='4662', Date=datetime.date(2015, 10, 19), items='pastry, other
vegetables, butter milk')
Row(Member number='4666', Date=datetime.date(2015, 10, 19), items='whipped/sour
```

```
cream, butter milk, shopping bags')
Row(Member_number='4927', Date=datetime.date(2015, 10, 19), items='curd, soda,
whole milk')
Row(Member_number='2002', Date=datetime.date(2015, 10, 20), items='pork, meat,
rolls/buns, onions, frozen vegetables, root vegetables, beverages')
Row(Member_number='2104', Date=datetime.date(2015, 10, 20), items='yogurt, cream
cheese ')
Row(Member_number='2690', Date=datetime.date(2015, 10, 20), items='cream,
frankfurter, soda, UHT-milk')
Row(Member_number='3050', Date=datetime.date(2015, 10, 20), items='other
vegetables, sausage, sliced cheese, rolls/buns')
Row(Member_number='3120', Date=datetime.date(2015, 10, 20), items='cling
film/bags, other vegetables')
Row(Member number='3803', Date=datetime.date(2015, 10, 20), items='sausage,
chicken, pip fruit, other vegetables')
Row(Member_number='4056', Date=datetime.date(2015, 10, 20), items='tropical
fruit, root vegetables')
Row(Member_number='4081', Date=datetime.date(2015, 10, 20), items='whole milk,
rolls/buns')
Row(Member number='4389', Date=datetime.date(2015, 10, 20), items='detergent,
tropical fruit, shopping bags, soft cheese')
Row(Member_number='4437', Date=datetime.date(2015, 10, 20), items='beverages,
hamburger meat, other vegetables, canned beer')
Row(Member_number='4540', Date=datetime.date(2015, 10, 20), items='yogurt,
mustard')
Row(Member_number='1054', Date=datetime.date(2015, 10, 21), items='photo/film,
other vegetables')
Row(Member number='1090', Date=datetime.date(2015, 10, 21), items='ice cream,
whole milk')
Row(Member_number='1614', Date=datetime.date(2015, 10, 21), items='specialty
cheese, napkins')
Row(Member_number='1902', Date=datetime.date(2015, 10, 21), items='pork, ice
cream, yogurt')
Row(Member_number='2008', Date=datetime.date(2015, 10, 21), items='whole milk,
Row(Member_number='2169', Date=datetime.date(2015, 10, 21), items='citrus fruit,
whole milk')
Row(Member_number='2273', Date=datetime.date(2015, 10, 21), items='tropical
fruit, other vegetables')
Row(Member_number='2524', Date=datetime.date(2015, 10, 21), items='herbs,
sausage, candy, whole milk')
Row(Member_number='2551', Date=datetime.date(2015, 10, 21), items='citrus fruit,
Row(Member_number='2610', Date=datetime.date(2015, 10, 21), items='meat,
pastry')
Row(Member number='2663', Date=datetime.date(2015, 10, 21), items='sausage,
chocolate, semi-finished bread, whole milk, rum, bottled beer')
Row(Member number='2814', Date=datetime.date(2015, 10, 21), items='onions, dish
```

```
cleaner')
Row(Member_number='3178', Date=datetime.date(2015, 10, 21), items='frankfurter,
other vegetables')
Row(Member_number='3547', Date=datetime.date(2015, 10, 21), items='tropical
fruit, bottled beer, other vegetables, meat, roll products ')
Row(Member_number='3571', Date=datetime.date(2015, 10, 21), items='chicken,
tropical fruit, citrus fruit, yogurt')
Row(Member_number='3653', Date=datetime.date(2015, 10, 21), items='long life
bakery product, whole milk, pip fruit, pork, frozen dessert')
Row(Member_number='3960', Date=datetime.date(2015, 10, 21), items='canned beer,
pork, processed cheese, root vegetables, snack products, sugar')
Row(Member number='4464', Date=datetime.date(2015, 10, 21), items='sausage, ice
cream')
Row(Member_number='1021', Date=datetime.date(2015, 10, 22), items='liquor, curd,
yogurt, tropical fruit')
Row(Member_number='1173', Date=datetime.date(2015, 10, 22), items='hard cheese,
rolls/buns')
Row(Member number='1454', Date=datetime.date(2015, 10, 22), items='white bread,
beef, coffee, flour')
Row(Member number='1789', Date=datetime.date(2015, 10, 22), items='citrus fruit,
Row(Member number='1793', Date=datetime.date(2015, 10, 22), items='other
vegetables, frozen meals')
Row(Member_number='1951', Date=datetime.date(2015, 10, 22), items='herbs,
rolls/buns')
Row(Member number='1991', Date=datetime.date(2015, 10, 22), items='chicken,
nuts/prunes')
Row(Member_number='2601', Date=datetime.date(2015, 10, 22), items='canned beer,
margarine, pastry')
Row(Member number='2905', Date=datetime.date(2015, 10, 22), items='tropical
fruit, beef, cream cheese, frozen vegetables')
Row(Member_number='3178', Date=datetime.date(2015, 10, 22), items='bottled beer,
sugar, bottled water')
Row(Member_number='3668', Date=datetime.date(2015, 10, 22), items='whole milk,
brandy')
Row(Member_number='4783', Date=datetime.date(2015, 10, 22), items='hamburger
meat, beef, bottled beer, whole milk, chocolate')
Row(Member_number='4952', Date=datetime.date(2015, 10, 22), items='canned beer,
soda')
Row(Member_number='1072', Date=datetime.date(2015, 10, 23), items='frankfurter,
canned beer')
Row(Member number='1277', Date=datetime.date(2015, 10, 23), items='whipped/sour
cream, other vegetables')
Row(Member number='1360', Date=datetime.date(2015, 10, 23), items='pork,
tropical fruit')
Row(Member number='1564', Date=datetime.date(2015, 10, 23), items='sausage,
pasta')
Row(Member number='1950', Date=datetime.date(2015, 10, 23), items='sausage,
```

```
frozen vegetables')
Row(Member_number='2017', Date=datetime.date(2015, 10, 23), items='chicken, UHT-
milk')
Row(Member_number='2525', Date=datetime.date(2015, 10, 23), items='chicken,
canned beer')
Row(Member_number='2557', Date=datetime.date(2015, 10, 23), items='pork, long
life bakery product')
Row(Member_number='3308', Date=datetime.date(2015, 10, 23), items='citrus fruit,
brown bread')
Row(Member_number='3406', Date=datetime.date(2015, 10, 23), items='whole milk,
rolls/buns')
Row(Member_number='3414', Date=datetime.date(2015, 10, 23), items='curd, brown
bread, whole milk, chewing gum')
Row(Member_number='3443', Date=datetime.date(2015, 10, 23), items='root
vegetables, coffee')
Row(Member_number='3688', Date=datetime.date(2015, 10, 23), items='pork, soda,
brandy, sausage, rolls/buns, whole milk, yogurt, frozen dessert, shopping bags')
Row(Member_number='3801', Date=datetime.date(2015, 10, 23), items='root
vegetables, herbs')
Row(Member number='3985', Date=datetime.date(2015, 10, 23), items='candy, whole
milk, cling film/bags, whipped/sour cream, newspapers, baking powder')
Row(Member_number='4102', Date=datetime.date(2015, 10, 23), items='ham, grapes')
Row(Member_number='4122', Date=datetime.date(2015, 10, 23), items='whole milk,
UHT-milk')
Row(Member_number='4127', Date=datetime.date(2015, 10, 23), items='butter,
popcorn')
Row(Member number='4486', Date=datetime.date(2015, 10, 23), items='frankfurter,
pork, rolls/buns, grapes')
Row(Member_number='4543', Date=datetime.date(2015, 10, 23), items='rolls/buns,
long life bakery product')
Row(Member number='4605', Date=datetime.date(2015, 10, 23), items='frankfurter,
margarine')
Row(Member number='1292', Date=datetime.date(2015, 10, 24), items='beverages,
pork')
Row(Member number='1767', Date=datetime.date(2015, 10, 24), items='pastry, other
vegetables')
Row(Member number='1899', Date=datetime.date(2015, 10, 24), items='pastry,
liquor, shopping bags')
Row(Member_number='1973', Date=datetime.date(2015, 10, 24), items='beef,
specialty chocolate')
Row(Member_number='2406', Date=datetime.date(2015, 10, 24), items='curd, root
vegetables, dish cleaner')
Row(Member_number='2580', Date=datetime.date(2015, 10, 24), items='tropical
fruit, yogurt')
Row(Member_number='2792', Date=datetime.date(2015, 10, 24), items='canned beer,
root vegetables')
Row(Member_number='2975', Date=datetime.date(2015, 10, 24), items='rolls/buns,
cream cheese ')
```

```
Row(Member_number='3184', Date=datetime.date(2015, 10, 24), items='root
vegetables, onions')
Row(Member number='3676', Date=datetime.date(2015, 10, 24), items='sausage,
canned beer, kitchen towels')
Row(Member number='4455', Date=datetime.date(2015, 10, 24), items='yogurt,
curd')
Row(Member number='4614', Date=datetime.date(2015, 10, 24), items='vinegar,
whole milk')
Row(Member number='4779', Date=datetime.date(2015, 10, 24), items='whipped/sour
cream, other vegetables, pot plants')
Row(Member_number='4896', Date=datetime.date(2015, 10, 24), items='flour,
tropical fruit')
Row(Member number='4996', Date=datetime.date(2015, 10, 24), items='dessert,
bottled beer')
Row(Member_number='1044', Date=datetime.date(2015, 10, 25), items='root
vegetables, curd')
Row(Member_number='1366', Date=datetime.date(2015, 10, 25), items='sausage,
other vegetables, frankfurter, coffee, pastry, bottled water, soda, whole milk')
Row(Member_number='1510', Date=datetime.date(2015, 10, 25), items='ham, soda')
Row(Member_number='1921', Date=datetime.date(2015, 10, 25), items='pip fruit,
bottled water')
Row(Member number='2191', Date=datetime.date(2015, 10, 25), items='pip fruit,
whole milk, butter milk, yogurt')
Row(Member_number='2229', Date=datetime.date(2015, 10, 25), items='other
vegetables, soda, root vegetables, flower soil/fertilizer, meat, shopping bags,
processed cheese')
Row(Member_number='2235', Date=datetime.date(2015, 10, 25), items='soda, ham')
Row(Member_number='2363', Date=datetime.date(2015, 10, 25), items='hamburger
meat, whole milk')
Row(Member number='2413', Date=datetime.date(2015, 10, 25), items='tropical
fruit, other vegetables')
Row(Member_number='2577', Date=datetime.date(2015, 10, 25), items='sausage,
dessert')
Row(Member_number='2870', Date=datetime.date(2015, 10, 25), items='beef')
Row(Member number='3266', Date=datetime.date(2015, 10, 25), items='hamburger
meat, sausage, frankfurter, soda, root vegetables, coffee, chewing gum, pastry')
Row(Member number='3281', Date=datetime.date(2015, 10, 25), items='beef, root
vegetables')
Row(Member_number='3365', Date=datetime.date(2015, 10, 25), items='canned beer,
domestic eggs')
Row(Member_number='3426', Date=datetime.date(2015, 10, 25), items='yogurt')
Row(Member_number='3907', Date=datetime.date(2015, 10, 25), items='other
vegetables, frankfurter, newspapers, spread cheese')
Row(Member number='4186', Date=datetime.date(2015, 10, 25), items='whipped/sour
cream, whole milk, oil')
Row(Member number='4332', Date=datetime.date(2015, 10, 25), items='domestic
eggs, bottled beer')
Row(Member number='4584', Date=datetime.date(2015, 10, 25), items='chicken,
```

```
yogurt')
Row(Member_number='4698', Date=datetime.date(2015, 10, 25), items='newspapers')
Row(Member_number='4776', Date=datetime.date(2015, 10, 25), items='whole milk,
other vegetables')
Row(Member number='1153', Date=datetime.date(2015, 10, 26), items='frankfurter,
soft cheese, mustard')
Row(Member number='1293', Date=datetime.date(2015, 10, 26), items='whole milk,
specialty cheese')
Row(Member number='1856', Date=datetime.date(2015, 10, 26), items='root
vegetables, tropical fruit')
Row(Member_number='1997', Date=datetime.date(2015, 10, 26), items='citrus fruit,
pip fruit, beverages')
Row(Member_number='2273', Date=datetime.date(2015, 10, 26), items='sausage,
bottled beer')
Row(Member_number='2586', Date=datetime.date(2015, 10, 26), items='meat, cling
film/bags, whipped/sour cream')
Row(Member_number='3084', Date=datetime.date(2015, 10, 26), items='frankfurter,
canned beer')
Row(Member_number='3275', Date=datetime.date(2015, 10, 26), items='whole milk,
napkins, flour')
Row(Member_number='3438', Date=datetime.date(2015, 10, 26), items='pork,
dessert')
Row(Member_number='3491', Date=datetime.date(2015, 10, 26), items='sausage,
female sanitary products')
Row(Member_number='3518', Date=datetime.date(2015, 10, 26), items='beef,
pastry')
Row(Member_number='3709', Date=datetime.date(2015, 10, 26), items='root
vegetables, citrus fruit, other vegetables, pork, herbs')
Row(Member_number='3807', Date=datetime.date(2015, 10, 26), items='pip fruit,
pork, seasonal products, canned beer')
Row(Member_number='3890', Date=datetime.date(2015, 10, 26), items='root
vegetables, white bread, canned fish')
Row(Member number='4197', Date=datetime.date(2015, 10, 26), items='beef,
sausage, pet care, yogurt, newspapers, soda')
Row(Member_number='4292', Date=datetime.date(2015, 10, 26), items='frankfurter,
yogurt')
Row(Member number='4295', Date=datetime.date(2015, 10, 26), items='frozen meals,
whole milk, fruit/vegetable juice, butter, chocolate, bottled water')
Row(Member_number='4319', Date=datetime.date(2015, 10, 26), items='whole milk,
hard cheese')
Row(Member_number='4337', Date=datetime.date(2015, 10, 26), items='tropical
fruit, napkins')
Row(Member_number='4875', Date=datetime.date(2015, 10, 26), items='bottled
water, whole milk')
Row(Member_number='4909', Date=datetime.date(2015, 10, 26), items='spread
cheese, tropical fruit, domestic eggs, bottled water')
Row(Member_number='1052', Date=datetime.date(2015, 10, 27), items='pork, other
vegetables, yogurt, shopping bags, soft cheese, detergent')
```

```
Row(Member number='1065', Date=datetime.date(2015, 10, 27), items='beef,
dessert')
Row(Member_number='1104', Date=datetime.date(2015, 10, 27), items='pork, whole
milk')
Row(Member number='1190', Date=datetime.date(2015, 10, 27), items='sparkling
wine, waffles')
Row(Member number='1231', Date=datetime.date(2015, 10, 27), items='pork, sliced
cheese, flour')
Row(Member number='1430', Date=datetime.date(2015, 10, 27), items='beef, white
wine')
Row(Member number='1452', Date=datetime.date(2015, 10, 27), items='chicken,
chewing gum')
Row(Member number='1505', Date=datetime.date(2015, 10, 27), items='frankfurter,
canned beer, other vegetables, potato products')
Row(Member_number='1967', Date=datetime.date(2015, 10, 27), items='sausage,
grapes')
Row(Member_number='2281', Date=datetime.date(2015, 10, 27), items='beef, instant
coffee')
Row(Member_number='2421', Date=datetime.date(2015, 10, 27), items='candy,
sausage, other vegetables, frozen vegetables')
Row(Member_number='2431', Date=datetime.date(2015, 10, 27), items='rolls/buns,
newspapers, cereals')
Row(Member_number='2460', Date=datetime.date(2015, 10, 27), items='chicken,
rolls/buns, newspapers')
Row(Member_number='3031', Date=datetime.date(2015, 10, 27), items='tropical
fruit, whole milk, chocolate')
Row(Member_number='3694', Date=datetime.date(2015, 10, 27), items='frozen meals,
citrus fruit')
Row(Member_number='3775', Date=datetime.date(2015, 10, 27), items='root
vegetables, coffee')
Row(Member_number='3958', Date=datetime.date(2015, 10, 27), items='curd, brown
Row(Member_number='4297', Date=datetime.date(2015, 10, 27), items='whole milk,
citrus fruit, butter milk, specialty bar')
Row(Member number='4321', Date=datetime.date(2015, 10, 27), items='salty snack,
pip fruit, chicken, rolls/buns, red/blush wine')
Row(Member number='4537', Date=datetime.date(2015, 10, 27), items='pork, salty
snack, sliced cheese')
Row(Member_number='4692', Date=datetime.date(2015, 10, 27), items='citrus fruit,
tropical fruit, UHT-milk, cat food, chocolate, root vegetables, rolls/buns,
sweet spreads')
Row(Member_number='4794', Date=datetime.date(2015, 10, 27), items='ham, tropical
Row(Member number='4806', Date=datetime.date(2015, 10, 27), items='sausage,
tropical fruit, yogurt')
Row(Member number='1078', Date=datetime.date(2015, 10, 28), items='frankfurter,
curd, white bread, rolls/buns, coffee')
Row(Member number='1498', Date=datetime.date(2015, 10, 28), items='frozen
```

```
vegetables, whole milk')
Row(Member_number='1779', Date=datetime.date(2015, 10, 28), items='whole milk,
beef, rolls/buns, curd, white bread')
Row(Member_number='2109', Date=datetime.date(2015, 10, 28), items='sausage,
tropical fruit')
Row(Member_number='2212', Date=datetime.date(2015, 10, 28), items='bottled
water, butter milk')
Row(Member_number='2483', Date=datetime.date(2015, 10, 28), items='citrus fruit,
liquor (appetizer)')
Row(Member_number='2774', Date=datetime.date(2015, 10, 28), items='yogurt, soda,
dessert')
Row(Member_number='3063', Date=datetime.date(2015, 10, 28), items='whole milk,
whipped/sour cream')
Row(Member number='3309', Date=datetime.date(2015, 10, 28), items='misc.
beverages, packaged fruit/vegetables')
Row(Member_number='3483', Date=datetime.date(2015, 10, 28), items='pip fruit,
sausage, shopping bags')
Row(Member_number='3592', Date=datetime.date(2015, 10, 28), items='other
vegetables, canned beer, shopping bags')
Row(Member_number='3790', Date=datetime.date(2015, 10, 28), items='chicken,
coffee')
Row(Member number='4187', Date=datetime.date(2015, 10, 28), items='rolls/buns,
berries, canned vegetables, dessert')
Row(Member_number='4240', Date=datetime.date(2015, 10, 28), items='pet care,
coffee, soda')
Row(Member number='4523', Date=datetime.date(2015, 10, 28), items='frankfurter,
butter')
Row(Member_number='4744', Date=datetime.date(2015, 10, 28), items='citrus fruit,
onions, salty snack, brown bread')
Row(Member_number='4763', Date=datetime.date(2015, 10, 28), items='citrus fruit,
hard cheese')
Row(Member_number='4835', Date=datetime.date(2015, 10, 28), items='pip fruit')
Row(Member_number='1136', Date=datetime.date(2015, 10, 29), items='other
vegetables, beef')
Row(Member number='1619', Date=datetime.date(2015, 10, 29), items='whole milk,
root vegetables')
Row(Member number='2157', Date=datetime.date(2015, 10, 29), items='fish, meat')
Row(Member_number='2829', Date=datetime.date(2015, 10, 29), items='pip fruit,
candles')
Row(Member_number='2926', Date=datetime.date(2015, 10, 29), items='oil, yogurt')
Row(Member_number='3410', Date=datetime.date(2015, 10, 29), items='ham, curd')
Row(Member number='3924', Date=datetime.date(2015, 10, 29), items='domestic
eggs, root vegetables, semi-finished bread, curd')
Row(Member_number='4416', Date=datetime.date(2015, 10, 29), items='pastry, white
bread')
Row(Member number='4493', Date=datetime.date(2015, 10, 29), items='frankfurter,
other vegetables, root vegetables')
Row(Member_number='4499', Date=datetime.date(2015, 10, 29), items='root
```

```
vegetables, berries, brandy')
Row(Member_number='4572', Date=datetime.date(2015, 10, 29), items='sausage,
whole milk, pastry, rolls/buns, coffee, bottled beer, chocolate')
Row(Member_number='4579', Date=datetime.date(2015, 10, 29), items='other
vegetables, misc. beverages, root vegetables, curd, dessert')
Row(Member_number='4867', Date=datetime.date(2015, 10, 29), items='rolls/buns,
Row(Member_number='4988', Date=datetime.date(2015, 10, 29), items='candles,
rolls/buns, other vegetables')
Row(Member_number='1095', Date=datetime.date(2015, 10, 30), items='packaged
fruit/vegetables, bottled water, pork, domestic eggs')
Row(Member number='1341', Date=datetime.date(2015, 10, 30), items='frankfurter,
berries')
Row(Member_number='1656', Date=datetime.date(2015, 10, 30), items='specialty
cheese, sliced cheese')
Row(Member_number='1700', Date=datetime.date(2015, 10, 30), items='other
vegetables')
Row(Member_number='1910', Date=datetime.date(2015, 10, 30), items='yogurt,
salt')
Row(Member number='1939', Date=datetime.date(2015, 10, 30), items='root
vegetables, coffee, sliced cheese, newspapers')
Row(Member_number='2260', Date=datetime.date(2015, 10, 30), items='sausage,
domestic eggs, mayonnaise, soda')
Row(Member_number='2639', Date=datetime.date(2015, 10, 30), items='sausage,
other vegetables')
Row(Member number='2876', Date=datetime.date(2015, 10, 30), items='other
vegetables, pip fruit, fruit/vegetable juice')
Row(Member number='3952', Date=datetime.date(2015, 10, 30), items='sausage,
brown bread, meat spreads')
Row(Member_number='4762', Date=datetime.date(2015, 10, 30), items='rolls/buns,
pork')
Row(Member_number='1502', Date=datetime.date(2015, 10, 31), items='frozen
vegetables, other vegetables')
Row(Member_number='1787', Date=datetime.date(2015, 10, 31), items='frozen meals,
finished products, chocolate, other vegetables, whole milk, packaged
fruit/vegetables, napkins, salty snack')
Row(Member number='1981', Date=datetime.date(2015, 10, 31), items='chicken,
specialty chocolate')
Row(Member_number='2089', Date=datetime.date(2015, 10, 31), items='canned beer,
hard cheese')
Row(Member_number='2439', Date=datetime.date(2015, 10, 31), items='bottled
water, salty snack, brown bread')
Row(Member_number='2627', Date=datetime.date(2015, 10, 31), items='rolls/buns,
other vegetables, yogurt, frozen vegetables')
Row(Member_number='2827', Date=datetime.date(2015, 10, 31), items='bottled beer,
beef, domestic eggs, whipped/sour cream, shopping bags, newspapers')
Row(Member_number='2839', Date=datetime.date(2015, 10, 31), items='beef, whole
milk, candy')
```

```
Row(Member number='3122', Date=datetime.date(2015, 10, 31), items='chicken,
bottled beer')
Row(Member number='4244', Date=datetime.date(2015, 10, 31), items='tropical
fruit, oil')
Row(Member number='4322', Date=datetime.date(2015, 10, 31), items='brown bread,
chocolate')
Row(Member number='4675', Date=datetime.date(2015, 10, 31), items='pip fruit,
pastry')
Row(Member number='4773', Date=datetime.date(2015, 10, 31), items='salty snack,
other vegetables, yogurt')
Row(Member number='4882', Date=datetime.date(2015, 10, 31), items='tropical
fruit, pickled vegetables')
Row(Member_number='4934', Date=datetime.date(2015, 10, 31), items='canned beer,
curd')
Row(Member_number='1514', Date=datetime.date(2015, 11, 1), items='root
vegetables, waffles')
Row(Member_number='1850', Date=datetime.date(2015, 11, 1), items='tropical
fruit, hamburger meat')
Row(Member_number='1893', Date=datetime.date(2015, 11, 1), items='yogurt,
fruit/vegetable juice')
Row(Member_number='2194', Date=datetime.date(2015, 11, 1), items='other
vegetables, pip fruit')
Row(Member_number='2276', Date=datetime.date(2015, 11, 1), items='soda, pork')
Row(Member_number='2280', Date=datetime.date(2015, 11, 1), items='tropical
fruit, organic products')
Row(Member number='2684', Date=datetime.date(2015, 11, 1), items='citrus fruit,
rolls/buns, salt')
Row(Member number='2689', Date=datetime.date(2015, 11, 1), items='bottled beer,
whole milk')
Row(Member number='2761', Date=datetime.date(2015, 11, 1), items='pork, semi-
finished bread')
Row(Member_number='2781', Date=datetime.date(2015, 11, 1), items='rolls/buns,
yogurt')
Row(Member_number='2986', Date=datetime.date(2015, 11, 1), items='sausage, other
vegetables, chicken, waffles, root vegetables, bottled beer, butter,
whipped/sour cream')
Row(Member number='3038', Date=datetime.date(2015, 11, 1), items='rolls/buns,
waffles')
Row(Member_number='3165', Date=datetime.date(2015, 11, 1), items='rolls/buns,
tropical fruit')
Row(Member_number='3629', Date=datetime.date(2015, 11, 1), items='frankfurter,
detergent, chocolate')
Row(Member_number='3877', Date=datetime.date(2015, 11, 1), items='pork,
whipped/sour cream')
Row(Member_number='3890', Date=datetime.date(2015, 11, 1), items='sausage,
rolls/buns')
Row(Member_number='3966', Date=datetime.date(2015, 11, 1), items='tropical
fruit, whole milk')
```

```
Row(Member_number='4218', Date=datetime.date(2015, 11, 1), items='ham, berries')
Row(Member_number='4231', Date=datetime.date(2015, 11, 1), items='chicken, salty
snack')
Row(Member_number='4316', Date=datetime.date(2015, 11, 1), items='other
vegetables, butter')
Row(Member_number='4515', Date=datetime.date(2015, 11, 1), items='whole milk,
Row(Member_number='4742', Date=datetime.date(2015, 11, 1), items='ham, meat')
Row(Member number='4811', Date=datetime.date(2015, 11, 1), items='butter milk,
pet care')
Row(Member_number='4818', Date=datetime.date(2015, 11, 1), items='salt, canned
beer, roll products ')
Row(Member number='1168', Date=datetime.date(2015, 11, 2), items='bottled beer,
whole milk, UHT-milk, chocolate')
Row(Member_number='1174', Date=datetime.date(2015, 11, 2), items='rolls/buns,
soft cheese, fruit/vegetable juice')
Row(Member_number='1281', Date=datetime.date(2015, 11, 2), items='tropical
fruit, coffee, newspapers')
Row(Member_number='1472', Date=datetime.date(2015, 11, 2), items='bottled beer,
yogurt, other vegetables')
Row(Member_number='1486', Date=datetime.date(2015, 11, 2), items='pip fruit,
yogurt')
Row(Member_number='1627', Date=datetime.date(2015, 11, 2), items='root
vegetables, pip fruit, other vegetables, canned beer')
Row(Member_number='1845', Date=datetime.date(2015, 11, 2), items='whole milk,
margarine')
Row(Member_number='1863', Date=datetime.date(2015, 11, 2), items='tropical
fruit, beverages')
Row(Member number='1969', Date=datetime.date(2015, 11, 2), items='citrus fruit,
other vegetables, frozen vegetables, waffles')
Row(Member_number='2128', Date=datetime.date(2015, 11, 2), items='whole milk,
chocolate marshmallow')
Row(Member number='2811', Date=datetime.date(2015, 11, 2), items='oil, butter
milk, cling film/bags, pastry')
Row(Member number='2859', Date=datetime.date(2015, 11, 2), items='grapes,
herbs')
Row(Member number='2928', Date=datetime.date(2015, 11, 2), items='pork, root
vegetables')
Row(Member_number='3140', Date=datetime.date(2015, 11, 2), items='citrus fruit,
Row(Member_number='3200', Date=datetime.date(2015, 11, 2), items='hamburger
meat, other vegetables')
Row(Member_number='3322', Date=datetime.date(2015, 11, 2), items='bottled beer,
fruit/vegetable juice, whole milk')
Row(Member_number='4239', Date=datetime.date(2015, 11, 2), items='sausage,
berries')
Row(Member_number='4267', Date=datetime.date(2015, 11, 2), items='beef, butter')
Row(Member number='4498', Date=datetime.date(2015, 11, 2), items='bottled beer,
```

```
whole milk, cream cheese ')
Row(Member_number='4707', Date=datetime.date(2015, 11, 2), items='soda, root
vegetables')
Row(Member_number='4752', Date=datetime.date(2015, 11, 2), items='yogurt, UHT-
milk, dessert, frozen dessert')
Row(Member_number='1252', Date=datetime.date(2015, 11, 3), items='chicken,
pastry')
Row(Member_number='1584', Date=datetime.date(2015, 11, 3), items='frankfurter,
cream cheese , long life bakery product')
Row(Member_number='1622', Date=datetime.date(2015, 11, 3), items='meat,
rolls/buns, soda')
Row(Member number='1718', Date=datetime.date(2015, 11, 3), items='hamburger
meat, red/blush wine, salty snack')
Row(Member_number='1765', Date=datetime.date(2015, 11, 3), items='margarine,
beef, whipped/sour cream')
Row(Member number='1850', Date=datetime.date(2015, 11, 3), items='citrus fruit,
grapes')
Row(Member number='1994', Date=datetime.date(2015, 11, 3), items='whole milk,
pip fruit, waffles, coffee, chocolate')
Row(Member_number='2103', Date=datetime.date(2015, 11, 3), items='frozen meals,
dessert')
Row(Member number='2200', Date=datetime.date(2015, 11, 3), items='berries,
grapes, onions')
Row(Member_number='2284', Date=datetime.date(2015, 11, 3), items='frankfurter,
ice cream')
Row(Member_number='3050', Date=datetime.date(2015, 11, 3), items='pip fruit,
pork, sausage, dessert, grapes, soda, yogurt, whole milk')
Row(Member_number='3398', Date=datetime.date(2015, 11, 3), items='tropical
fruit, citrus fruit')
Row(Member_number='3495', Date=datetime.date(2015, 11, 3), items='whole milk,
root vegetables')
Row(Member_number='3656', Date=datetime.date(2015, 11, 3), items='tropical
fruit, frozen meals, yogurt, other vegetables')
Row(Member_number='4024', Date=datetime.date(2015, 11, 3), items='ice cream,
grapes')
Row(Member_number='4620', Date=datetime.date(2015, 11, 3), items='sausage, whole
milk, other vegetables, semi-finished bread, yogurt')
Row(Member_number='1204', Date=datetime.date(2015, 11, 4), items='grapes,
chicken, bottled beer, root vegetables')
Row(Member_number='1275', Date=datetime.date(2015, 11, 4), items='salt, citrus
fruit')
Row(Member number='1567', Date=datetime.date(2015, 11, 4), items='ham,
frankfurter, bottled water, shopping bags, specialty cheese')
Row(Member_number='1595', Date=datetime.date(2015, 11, 4), items='pip fruit,
soda')
Row(Member number='1627', Date=datetime.date(2015, 11, 4), items='rolls/buns,
pastry')
Row(Member number='1665', Date=datetime.date(2015, 11, 4), items='whole milk,
```

```
UHT-milk')
Row(Member_number='1949', Date=datetime.date(2015, 11, 4), items='soda,
rolls/buns, napkins, salt')
Row(Member_number='2256', Date=datetime.date(2015, 11, 4), items='female
sanitary products, curd')
Row(Member_number='2261', Date=datetime.date(2015, 11, 4), items='whole milk,
Row(Member_number='2580', Date=datetime.date(2015, 11, 4), items='sausage,
chicken')
Row(Member_number='2613', Date=datetime.date(2015, 11, 4), items='soda, yogurt,
white bread')
Row(Member_number='2688', Date=datetime.date(2015, 11, 4), items='sausage,
canned vegetables')
Row(Member_number='2731', Date=datetime.date(2015, 11, 4), items='ice cream,
Row(Member_number='2738', Date=datetime.date(2015, 11, 4), items='canned beer,
whole milk, rolls/buns')
Row(Member_number='2900', Date=datetime.date(2015, 11, 4), items='pastry,
bottled water, dishes, whole milk, canned beer')
Row(Member_number='3092', Date=datetime.date(2015, 11, 4), items='dessert,
whipped/sour cream')
Row(Member number='3402', Date=datetime.date(2015, 11, 4), items='frozen meals,
mayonnaise, whipped/sour cream')
Row(Member_number='3509', Date=datetime.date(2015, 11, 4), items='beef, citrus
fruit, tropical fruit, coffee, fruit/vegetable juice, specialty chocolate')
Row(Member number='3898', Date=datetime.date(2015, 11, 4), items='ham, pork,
soda')
Row(Member_number='4020', Date=datetime.date(2015, 11, 4), items='yogurt,
bottled beer, napkins')
Row(Member_number='4127', Date=datetime.date(2015, 11, 4), items='canned beer,
butter, margarine, domestic eggs')
Row(Member_number='4145', Date=datetime.date(2015, 11, 4), items='misc.
beverages, rolls/buns')
Row(Member_number='4326', Date=datetime.date(2015, 11, 4), items='soda, yogurt')
Row(Member number='4348', Date=datetime.date(2015, 11, 4), items='beverages,
tropical fruit, rolls/buns, curd cheese')
Row(Member_number='4440', Date=datetime.date(2015, 11, 4), items='chicken, root
vegetables')
Row(Member_number='4727', Date=datetime.date(2015, 11, 4), items='rolls/buns,
root vegetables, yogurt')
Row(Member_number='1236', Date=datetime.date(2015, 11, 5), items='whole milk,
cling film/bags')
Row(Member_number='1371', Date=datetime.date(2015, 11, 5), items='frankfurter,
Row(Member_number='1438', Date=datetime.date(2015, 11, 5), items='sausage, beef,
whipped/sour cream')
Row(Member_number='1551', Date=datetime.date(2015, 11, 5), items='onions, rum')
Row(Member_number='1562', Date=datetime.date(2015, 11, 5), items='frankfurter,
```

```
pork')
Row(Member_number='2184', Date=datetime.date(2015, 11, 5), items='pork, curd')
Row(Member number='2282', Date=datetime.date(2015, 11, 5), items='citrus fruit,
margarine, white wine')
Row(Member number='2364', Date=datetime.date(2015, 11, 5), items='rolls/buns,
white bread')
Row(Member number='2492', Date=datetime.date(2015, 11, 5), items='beef, other
vegetables')
Row(Member number='2650', Date=datetime.date(2015, 11, 5), items='citrus fruit,
tropical fruit, soda, coffee, domestic eggs')
Row(Member number='2814', Date=datetime.date(2015, 11, 5), items='ice cream,
root vegetables')
Row(Member_number='2934', Date=datetime.date(2015, 11, 5), items='root
vegetables, whipped/sour cream, chocolate')
Row(Member_number='2981', Date=datetime.date(2015, 11, 5), items='whole milk,
chocolate, pickled vegetables')
Row(Member_number='3245', Date=datetime.date(2015, 11, 5), items='soda,
chocolate')
Row(Member_number='3346', Date=datetime.date(2015, 11, 5), items='tropical
fruit, ice cream')
Row(Member_number='3591', Date=datetime.date(2015, 11, 5), items='whole milk,
citrus fruit, butter, dental care')
Row(Member_number='3715', Date=datetime.date(2015, 11, 5), items='whole milk')
Row(Member_number='3786', Date=datetime.date(2015, 11, 5), items='curd,
zwieback')
Row(Member number='3811', Date=datetime.date(2015, 11, 5), items='root
vegetables, soft cheese, yogurt, bottled water')
Row(Member_number='3835', Date=datetime.date(2015, 11, 5), items='whole milk,
bottled water')
Row(Member_number='3904', Date=datetime.date(2015, 11, 5), items='sausage,
grapes, berries, curd')
Row(Member_number='4065', Date=datetime.date(2015, 11, 5), items='margarine,
other vegetables')
Row(Member_number='4170', Date=datetime.date(2015, 11, 5), items='chicken,
onions')
Row(Member_number='4173', Date=datetime.date(2015, 11, 5), items='yogurt,
hamburger meat')
Row(Member_number='4194', Date=datetime.date(2015, 11, 5), items='cleaner,
chewing gum')
Row(Member_number='4264', Date=datetime.date(2015, 11, 5), items='curd cheese,
popcorn')
Row(Member_number='4525', Date=datetime.date(2015, 11, 5), items='liqueur, whole
milk')
Row(Member_number='1120', Date=datetime.date(2015, 11, 6), items='other
vegetables, specialty bar')
Row(Member number='1146', Date=datetime.date(2015, 11, 6), items='whole milk,
bottled beer')
Row(Member number='1190', Date=datetime.date(2015, 11, 6), items='root
```

```
vegetables')
Row(Member_number='1395', Date=datetime.date(2015, 11, 6), items='brown bread,
soda')
Row(Member_number='1551', Date=datetime.date(2015, 11, 6), items='tropical
fruit, yogurt')
Row(Member number='1789', Date=datetime.date(2015, 11, 6), items='beef, frozen
dessert')
Row(Member_number='2119', Date=datetime.date(2015, 11, 6), items='herbs,
packaged fruit/vegetables')
Row(Member_number='2365', Date=datetime.date(2015, 11, 6), items='sausage,
yogurt, candles')
Row(Member_number='2620', Date=datetime.date(2015, 11, 6), items='ice cream,
pork')
Row(Member_number='2635', Date=datetime.date(2015, 11, 6), items='frankfurter,
berries, tropical fruit, rolls/buns')
Row(Member_number='3262', Date=datetime.date(2015, 11, 6), items='domestic eggs,
newspapers')
Row(Member number='3491', Date=datetime.date(2015, 11, 6), items='ham, root
vegetables')
Row(Member number='3548', Date=datetime.date(2015, 11, 6), items='pork, spread
cheese')
Row(Member number='3599', Date=datetime.date(2015, 11, 6), items='other
vegetables, beverages, margarine')
Row(Member_number='4358', Date=datetime.date(2015, 11, 6), items='turkey,
chewing gum')
Row(Member number='4875', Date=datetime.date(2015, 11, 6), items='citrus fruit,
cream cheese ')
Row(Member number='4924', Date=datetime.date(2015, 11, 6), items='butter, other
vegetables, yogurt')
Row(Member number='1028', Date=datetime.date(2015, 11, 7), items='specialty
chocolate, root vegetables')
Row(Member_number='1777', Date=datetime.date(2015, 11, 7), items='sausage, curd,
brown bread')
Row(Member_number='1851', Date=datetime.date(2015, 11, 7), items='other
vegetables, mayonnaise, beverages')
Row(Member_number='2133', Date=datetime.date(2015, 11, 7), items='pork, brown
Row(Member_number='2990', Date=datetime.date(2015, 11, 7), items='grapes, meat
spreads, domestic eggs')
Row(Member_number='3085', Date=datetime.date(2015, 11, 7), items='whole milk,
newspapers')
Row(Member number='3542', Date=datetime.date(2015, 11, 7), items='other
vegetables, sugar')
Row(Member_number='3609', Date=datetime.date(2015, 11, 7), items='meat, liquor')
Row(Member_number='3756', Date=datetime.date(2015, 11, 7), items='sausage,
packaged fruit/vegetables')
Row(Member_number='4170', Date=datetime.date(2015, 11, 7), items='ice cream,
red/blush wine, fruit/vegetable juice')
```

```
Row(Member_number='4362', Date=datetime.date(2015, 11, 7), items='berries,
frozen vegetables')
Row(Member_number='4958', Date=datetime.date(2015, 11, 7), items='other
vegetables, oil')
Row(Member number='4976', Date=datetime.date(2015, 11, 7), items='misc.
beverages, pastry')
Row(Member number='1551', Date=datetime.date(2015, 11, 8), items='frankfurter,
syrup')
Row(Member number='2108', Date=datetime.date(2015, 11, 8), items='tropical
fruit, yogurt')
Row(Member_number='2129', Date=datetime.date(2015, 11, 8), items='other
vegetables, pork')
Row(Member number='2173', Date=datetime.date(2015, 11, 8), items='chicken, long
life bakery product')
Row(Member_number='2270', Date=datetime.date(2015, 11, 8), items='whole milk,
hygiene articles')
Row(Member_number='2379', Date=datetime.date(2015, 11, 8), items='hamburger
meat, yogurt')
Row(Member_number='2452', Date=datetime.date(2015, 11, 8), items='beef, chicken,
butter milk, canned beer, processed cheese, shopping bags')
Row(Member_number='2527', Date=datetime.date(2015, 11, 8), items='domestic eggs,
whole milk, rice')
Row(Member_number='2680', Date=datetime.date(2015, 11, 8), items='citrus fruit,
sweet spreads')
Row(Member_number='2683', Date=datetime.date(2015, 11, 8), items='rolls/buns,
soda, flower (seeds)')
Row(Member number='2952', Date=datetime.date(2015, 11, 8), items='citrus fruit,
bottled beer, butter milk')
Row(Member_number='2964', Date=datetime.date(2015, 11, 8), items='finished
products, ice cream, tropical fruit, whole milk')
Row(Member_number='3206', Date=datetime.date(2015, 11, 8), items='soap, rum')
Row(Member_number='3568', Date=datetime.date(2015, 11, 8), items='dessert,
meat')
Row(Member_number='3812', Date=datetime.date(2015, 11, 8), items='whipped/sour
cream, soda')
Row(Member_number='4117', Date=datetime.date(2015, 11, 8), items='pot plants,
citrus fruit')
Row(Member_number='4136', Date=datetime.date(2015, 11, 8), items='pip fruit,
root vegetables')
Row(Member_number='4506', Date=datetime.date(2015, 11, 8), items='pork, bottled
water')
Row(Member number='1358', Date=datetime.date(2015, 11, 9), items='whole milk,
whipped/sour cream, yogurt')
Row(Member_number='1846', Date=datetime.date(2015, 11, 9), items='frankfurter,
root vegetables')
Row(Member_number='2051', Date=datetime.date(2015, 11, 9), items='frankfurter,
long life bakery product, newspapers, pip fruit, whipped/sour cream, hygiene
articles')
```

```
Row(Member number='2636', Date=datetime.date(2015, 11, 9), items='sausage,
finished products, whole milk, yogurt, pastry, sliced cheese, onions, chewing
gum')
Row(Member_number='2712', Date=datetime.date(2015, 11, 9), items='other
vegetables, soda, frozen potato products')
Row(Member_number='2741', Date=datetime.date(2015, 11, 9), items='root
vegetables, yogurt, canned vegetables')
Row(Member_number='2983', Date=datetime.date(2015, 11, 9), items='flour, soda')
Row(Member number='3594', Date=datetime.date(2015, 11, 9), items='tropical
fruit, other vegetables')
Row(Member_number='3886', Date=datetime.date(2015, 11, 9), items='soda, butter
milk, citrus fruit, other vegetables')
Row(Member number='3915', Date=datetime.date(2015, 11, 9), items='whole milk,
rolls/buns, canned fruit, onions, soda')
Row(Member_number='4189', Date=datetime.date(2015, 11, 9), items='sausage, whole
milk')
Row(Member_number='4262', Date=datetime.date(2015, 11, 9), items='soft cheese,
pip fruit, whole milk')
Row(Member_number='4275', Date=datetime.date(2015, 11, 9), items='chicken,
bottled water')
Row(Member number='4681', Date=datetime.date(2015, 11, 9), items='citrus fruit,
whole milk, white bread, cat food, brown bread, bottled beer')
Row(Member_number='4697', Date=datetime.date(2015, 11, 9), items='onions,
bottled water, pastry')
Row(Member_number='4784', Date=datetime.date(2015, 11, 9), items='root
vegetables, coffee, napkins')
Row(Member number='4789', Date=datetime.date(2015, 11, 9), items='whole milk,
shopping bags')
Row(Member_number='1375', Date=datetime.date(2015, 11, 10), items='other
vegetables, newspapers')
Row(Member_number='1676', Date=datetime.date(2015, 11, 10), items='citrus fruit,
whole milk, fruit/vegetable juice, dishes')
Row(Member number='1775', Date=datetime.date(2015, 11, 10), items='tropical
fruit, cat food')
Row(Member number='2009', Date=datetime.date(2015, 11, 10), items='tropical
fruit, soda')
Row(Member number='2034', Date=datetime.date(2015, 11, 10), items='frankfurter,
butter milk')
Row(Member_number='2185', Date=datetime.date(2015, 11, 10), items='ham, chicken,
canned beer, other vegetables, napkins')
Row(Member_number='2190', Date=datetime.date(2015, 11, 10), items='citrus fruit,
bottled water, napkins')
Row(Member_number='2780', Date=datetime.date(2015, 11, 10), items='liquor, other
vegetables, whole milk')
Row(Member_number='2790', Date=datetime.date(2015, 11, 10), items='cereals,
sausage, tropical fruit, other vegetables')
Row(Member_number='2816', Date=datetime.date(2015, 11, 10), items='bottled beer,
other vegetables, salty snack')
```

```
Row(Member_number='2918', Date=datetime.date(2015, 11, 10), items='bottled beer,
rolls/buns, ice cream, pastry')
Row(Member_number='2920', Date=datetime.date(2015, 11, 10), items='citrus fruit,
Row(Member number='3066', Date=datetime.date(2015, 11, 10), items='specialty
bar, other vegetables')
Row(Member number='3322', Date=datetime.date(2015, 11, 10), items='sausage,
yogurt, whole milk')
Row(Member_number='3505', Date=datetime.date(2015, 11, 10), items='beverages,
domestic eggs')
Row(Member number='3543', Date=datetime.date(2015, 11, 10), items='frankfurter,
beef, meat, waffles, whole milk, curd, white bread, frozen meals, sugar')
Row(Member_number='3671', Date=datetime.date(2015, 11, 10), items='pork, brown
bread, bottled beer, shopping bags')
Row(Member_number='3848', Date=datetime.date(2015, 11, 10), items='bottled beer,
butter, frozen vegetables, whole milk')
Row(Member_number='4017', Date=datetime.date(2015, 11, 10), items='sausage,
yogurt')
Row(Member_number='4323', Date=datetime.date(2015, 11, 10), items='sauces,
tropical fruit')
Row(Member_number='4338', Date=datetime.date(2015, 11, 10), items='pip fruit,
napkins')
Row(Member_number='4413', Date=datetime.date(2015, 11, 10), items='hamburger
meat, spread cheese, pasta')
Row(Member_number='4670', Date=datetime.date(2015, 11, 10), items='sausage,
whole milk')
Row(Member_number='4828', Date=datetime.date(2015, 11, 10), items='rolls/buns,
pork, canned beer, root vegetables, shopping bags, oil, soda')
Row(Member number='4965', Date=datetime.date(2015, 11, 10), items='canned beer,
newspapers')
Row(Member number='1604', Date=datetime.date(2015, 11, 11), items='tropical
fruit, fruit/vegetable juice')
Row(Member number='1606', Date=datetime.date(2015, 11, 11), items='frankfurter,
other vegetables')
Row(Member number='1663', Date=datetime.date(2015, 11, 11), items='tropical
fruit')
Row(Member number='1819', Date=datetime.date(2015, 11, 11), items='pastry,
chicken, packaged fruit/vegetables, tropical fruit, pasta, photo/film, sugar')
Row(Member_number='1823', Date=datetime.date(2015, 11, 11), items='frankfurter,
pastry, hygiene articles')
Row(Member_number='1921', Date=datetime.date(2015, 11, 11), items='turkey,
whipped/sour cream')
Row(Member_number='1950', Date=datetime.date(2015, 11, 11), items='other
vegetables, whole milk')
Row(Member_number='2267', Date=datetime.date(2015, 11, 11), items='semi-finished
bread, brown bread')
Row(Member_number='2368', Date=datetime.date(2015, 11, 11), items='whole milk,
other vegetables, red/blush wine, coffee, bottled water, sugar')
```

```
Row(Member_number='2422', Date=datetime.date(2015, 11, 11), items='citrus fruit,
misc. beverages')
Row(Member_number='2548', Date=datetime.date(2015, 11, 11), items='whole milk,
pork')
Row(Member number='2555', Date=datetime.date(2015, 11, 11), items='bottled beer,
processed cheese')
Row (Member number='2598', Date=datetime.date(2015, 11, 11), items='pastry,
brandy, soda')
Row(Member number='2646', Date=datetime.date(2015, 11, 11), items='rolls/buns,
root vegetables, specialty chocolate')
Row(Member_number='2818', Date=datetime.date(2015, 11, 11), items='bottled
water, photo/film')
Row(Member number='3014', Date=datetime.date(2015, 11, 11), items='curd cheese,
sausage, bottled water, napkins')
Row(Member_number='3380', Date=datetime.date(2015, 11, 11), items='coffee,
turkey, margarine, hard cheese')
Row(Member_number='3534', Date=datetime.date(2015, 11, 11), items='sausage,
pastry')
Row(Member_number='4158', Date=datetime.date(2015, 11, 11), items='root
vegetables, domestic eggs')
Row(Member_number='4180', Date=datetime.date(2015, 11, 11), items='root
vegetables, whole milk')
Row(Member_number='1518', Date=datetime.date(2015, 11, 12), items='frankfurter,
pork, ketchup')
Row(Member_number='1884', Date=datetime.date(2015, 11, 12), items='frankfurter,
chicken, rolls/buns, other vegetables, coffee, long life bakery product,
domestic eggs')
Row(Member number='2348', Date=datetime.date(2015, 11, 12), items='domestic
eggs, pastry')
Row(Member number='2574', Date=datetime.date(2015, 11, 12), items='frozen
vegetables, salty snack, other vegetables, curd, hygiene articles')
Row(Member_number='2602', Date=datetime.date(2015, 11, 12), items='bottled
water, soups, newspapers, root vegetables, shopping bags')
Row(Member_number='2918', Date=datetime.date(2015, 11, 12), items='bottled
water, pip fruit, frozen vegetables')
Row(Member_number='2925', Date=datetime.date(2015, 11, 12), items='dessert, cake
Row(Member_number='3205', Date=datetime.date(2015, 11, 12), items='frankfurter,
other vegetables, butter, frozen vegetables')
Row(Member_number='3409', Date=datetime.date(2015, 11, 12), items='frankfurter,
sausage, brown bread, canned beer')
Row(Member number='3517', Date=datetime.date(2015, 11, 12), items='frankfurter,
pip fruit, meat, coffee, other vegetables, shopping bags, brown bread, curd')
Row(Member_number='3571', Date=datetime.date(2015, 11, 12), items='pet care,
beef')
Row(Member number='3724', Date=datetime.date(2015, 11, 12), items='meat, frozen
potato products')
Row(Member_number='4060', Date=datetime.date(2015, 11, 12), items='specialty
```

```
chocolate, canned beer')
Row(Member_number='4068', Date=datetime.date(2015, 11, 12), items='bottled beer,
pip fruit, butter, specialty bar, detergent')
Row(Member_number='4120', Date=datetime.date(2015, 11, 12), items='whole milk,
pip fruit, softener')
Row(Member_number='4258', Date=datetime.date(2015, 11, 12), items='soda, salty
snack, candy')
Row(Member_number='4320', Date=datetime.date(2015, 11, 12), items='soda,
whipped/sour cream')
Row(Member_number='4400', Date=datetime.date(2015, 11, 12), items='beverages,
whole milk')
Row(Member number='1065', Date=datetime.date(2015, 11, 13), items='frankfurter,
tropical fruit')
Row(Member_number='1283', Date=datetime.date(2015, 11, 13), items='UHT-milk,
frozen vegetables')
Row(Member_number='1608', Date=datetime.date(2015, 11, 13), items='root
vegetables, citrus fruit')
Row(Member number='1743', Date=datetime.date(2015, 11, 13), items='pip fruit,
frozen meals, white bread, brown bread, fruit/vegetable juice, pastry')
Row(Member_number='1844', Date=datetime.date(2015, 11, 13), items='frankfurter,
salty snack')
Row(Member number='1916', Date=datetime.date(2015, 11, 13), items='curd, yogurt,
domestic eggs')
Row(Member_number='2057', Date=datetime.date(2015, 11, 13), items='citrus fruit,
soda, shopping bags')
Row(Member number='2326', Date=datetime.date(2015, 11, 13), items='pork,
whipped/sour cream')
Row(Member_number='2389', Date=datetime.date(2015, 11, 13), items='packaged
fruit/vegetables, rolls/buns')
Row(Member_number='2784', Date=datetime.date(2015, 11, 13), items='tropical
fruit, margarine')
Row(Member_number='3812', Date=datetime.date(2015, 11, 13), items='rolls/buns,
meat, whole milk, domestic eggs, white bread')
Row(Member_number='4034', Date=datetime.date(2015, 11, 13), items='whole milk,
rolls/buns')
Row(Member_number='4178', Date=datetime.date(2015, 11, 13), items='tropical
fruit, pastry, salty snack')
Row(Member_number='4288', Date=datetime.date(2015, 11, 13), items='canned beer,
whipped/sour cream, pastry')
Row(Member_number='4382', Date=datetime.date(2015, 11, 13), items='beef,
hamburger meat')
Row(Member_number='4582', Date=datetime.date(2015, 11, 13),
items='fruit/vegetable juice, other vegetables')
Row(Member_number='4831', Date=datetime.date(2015, 11, 13), items='whole milk,
beef, tropical fruit, domestic eggs, coffee, other vegetables')
Row(Member number='4836', Date=datetime.date(2015, 11, 13), items='sausage,
zwieback, sliced cheese, other vegetables, bottled beer, soda')
Row(Member_number='4968', Date=datetime.date(2015, 11, 13), items='bottled beer,
```

```
herbs')
Row(Member_number='1207', Date=datetime.date(2015, 11, 14), items='frankfurter,
whole milk')
Row(Member_number='1678', Date=datetime.date(2015, 11, 14), items='citrus fruit,
canned beer')
Row(Member_number='2019', Date=datetime.date(2015, 11, 14), items='whipped/sour
cream, other vegetables')
Row(Member_number='2051', Date=datetime.date(2015, 11, 14), items='canned beer,
beef, whole milk, coffee')
Row(Member_number='2582', Date=datetime.date(2015, 11, 14), items='meat,
processed cheese, root vegetables, cat food')
Row(Member number='3001', Date=datetime.date(2015, 11, 14), items='sausage,
bottled water')
Row(Member_number='3120', Date=datetime.date(2015, 11, 14), items='liver loaf,
other vegetables')
Row(Member number='3202', Date=datetime.date(2015, 11, 14), items='pip fruit,
butter, soda')
Row(Member number='3235', Date=datetime.date(2015, 11, 14), items='pork, long
life bakery product')
Row(Member number='3360', Date=datetime.date(2015, 11, 14), items='whole milk,
beef, whipped/sour cream, curd cheese')
Row(Member_number='3390', Date=datetime.date(2015, 11, 14), items='soda,
Row(Member number='3442', Date=datetime.date(2015, 11, 14), items='rolls/buns,
pip fruit')
Row(Member_number='3468', Date=datetime.date(2015, 11, 14), items='liver loaf,
canned beer, tropical fruit, canned vegetables')
Row(Member_number='4078', Date=datetime.date(2015, 11, 14), items='pork, beef,
canned beer, newspapers, fruit/vegetable juice')
Row(Member_number='4097', Date=datetime.date(2015, 11, 14), items='bottled
water, other vegetables, vinegar')
Row(Member_number='4232', Date=datetime.date(2015, 11, 14), items='pork,
liquor')
Row(Member_number='4322', Date=datetime.date(2015, 11, 14), items='domestic
eggs, yogurt, canned beer')
Row(Member_number='4864', Date=datetime.date(2015, 11, 14), items='pip fruit,
Row(Member_number='1110', Date=datetime.date(2015, 11, 15), items='pastry,
baking powder, butter, margarine, curd, dishes')
Row(Member_number='1178', Date=datetime.date(2015, 11, 15), items='bottled
water, chocolate, jam')
Row(Member number='1508', Date=datetime.date(2015, 11, 15), items='sausage,
canned beer')
Row(Member number='1764', Date=datetime.date(2015, 11, 15), items='canned beer,
soda')
Row(Member number='1930', Date=datetime.date(2015, 11, 15), items='tropical
fruit, candy, fruit/vegetable juice')
Row(Member number='2437', Date=datetime.date(2015, 11, 15), items='ice cream,
```

```
napkins')
Row(Member_number='2443', Date=datetime.date(2015, 11, 15), items='sausage,
soda')
Row(Member_number='2539', Date=datetime.date(2015, 11, 15), items='citrus fruit,
tropical fruit')
Row(Member_number='2700', Date=datetime.date(2015, 11, 15), items='bottled beer,
canned fish, yogurt')
Row(Member_number='2848', Date=datetime.date(2015, 11, 15), items='chicken,
pasta')
Row(Member_number='3022', Date=datetime.date(2015, 11, 15), items='butter,
canned fish, cream cheese ')
Row(Member_number='3416', Date=datetime.date(2015, 11, 15), items='frozen meals,
canned vegetables, other vegetables, turkey')
Row(Member_number='3462', Date=datetime.date(2015, 11, 15), items='citrus fruit,
tropical fruit, butter, ham')
Row(Member_number='3511', Date=datetime.date(2015, 11, 15), items='organic
sausage, other vegetables')
Row(Member number='3999', Date=datetime.date(2015, 11, 15), items='dessert,
domestic eggs')
Row(Member number='4014', Date=datetime.date(2015, 11, 15), items='soda, citrus
Row(Member_number='4107', Date=datetime.date(2015, 11, 15), items='tropical
fruit, sausage, dog food, sweet spreads')
Row(Member_number='4367', Date=datetime.date(2015, 11, 15), items='sugar, whole
milk, fruit/vegetable juice')
Row(Member number='4742', Date=datetime.date(2015, 11, 15), items='beverages,
citrus fruit, tropical fruit, ready soups, canned fish, soda')
Row(Member_number='4825', Date=datetime.date(2015, 11, 15), items='butter milk,
UHT-milk')
Row(Member_number='4871', Date=datetime.date(2015, 11, 15), items='turkey, cream
cheese ')
Row(Member_number='1181', Date=datetime.date(2015, 11, 16), items='sausage, root
vegetables')
Row(Member_number='1412', Date=datetime.date(2015, 11, 16), items='soda,
frankfurter, cream cheese , butter')
Row(Member_number='1450', Date=datetime.date(2015, 11, 16), items='bags, yogurt,
Row(Member_number='1916', Date=datetime.date(2015, 11, 16), items='pip fruit,
fruit/vegetable juice')
Row(Member_number='2525', Date=datetime.date(2015, 11, 16), items='chicken,
other vegetables')
Row(Member_number='2548', Date=datetime.date(2015, 11, 16),
items='fruit/vegetable juice, butter, brown bread, dental care')
Row(Member number='2705', Date=datetime.date(2015, 11, 16), items='meat,
hamburger meat')
Row(Member number='2813', Date=datetime.date(2015, 11, 16), items='pip fruit,
yogurt')
Row(Member number='2961', Date=datetime.date(2015, 11, 16), items='frankfurter,
```

```
chocolate, mayonnaise, oil')
Row(Member_number='2977', Date=datetime.date(2015, 11, 16), items='chicken,
other vegetables, pastry, onions')
Row(Member_number='3107', Date=datetime.date(2015, 11, 16), items='napkins,
frozen vegetables')
Row(Member number='3141', Date=datetime.date(2015, 11, 16), items='onions, other
vegetables')
Row(Member_number='3145', Date=datetime.date(2015, 11, 16), items='other
vegetables, cake bar')
Row(Member_number='3693', Date=datetime.date(2015, 11, 16), items='whole milk,
root vegetables')
Row(Member_number='3999', Date=datetime.date(2015, 11, 16), items='frozen meals,
rolls/buns')
Row(Member number='4260', Date=datetime.date(2015, 11, 16), items='chicken,
whole milk, margarine, soda')
Row(Member number='4431', Date=datetime.date(2015, 11, 16), items='beverages,
pastry')
Row(Member_number='4629', Date=datetime.date(2015, 11, 16), items='citrus fruit,
candy')
Row(Member number='1086', Date=datetime.date(2015, 11, 17), items='other
vegetables, beef, soda, curd, butter')
Row(Member_number='1264', Date=datetime.date(2015, 11, 17), items='bottled
water, pastry')
Row(Member_number='1697', Date=datetime.date(2015, 11, 17), items='dish cleaner,
soda')
Row(Member number='1832', Date=datetime.date(2015, 11, 17), items='sausage,
pastry, mayonnaise')
Row(Member_number='1924', Date=datetime.date(2015, 11, 17), items='root
vegetables, rolls/buns, UHT-milk, packaged fruit/vegetables')
Row(Member_number='2042', Date=datetime.date(2015, 11, 17), items='yogurt, root
vegetables')
Row(Member_number='2216', Date=datetime.date(2015, 11, 17), items='tropical
fruit, other vegetables')
Row(Member_number='2506', Date=datetime.date(2015, 11, 17), items='soda, other
vegetables')
Row(Member_number='2580', Date=datetime.date(2015, 11, 17), items='other
vegetables, newspapers, pip fruit')
Row(Member_number='3319', Date=datetime.date(2015, 11, 17), items='bottled beer,
salty snack, napkins')
Row(Member_number='3512', Date=datetime.date(2015, 11, 17), items='cat food,
rolls/buns')
Row(Member number='4018', Date=datetime.date(2015, 11, 17), items='yogurt')
Row(Member_number='4142', Date=datetime.date(2015, 11, 17), items='other
vegetables, beverages')
Row(Member_number='4385', Date=datetime.date(2015, 11, 17), items='frankfurter,
margarine')
Row(Member_number='4607', Date=datetime.date(2015, 11, 17), items='white wine,
soda')
```

```
Row(Member_number='4662', Date=datetime.date(2015, 11, 17), items='rolls/buns')
Row(Member_number='1282', Date=datetime.date(2015, 11, 18), items='misc.
beverages, yogurt')
Row(Member_number='1340', Date=datetime.date(2015, 11, 18), items='whipped/sour
cream, brown bread')
Row(Member_number='1940', Date=datetime.date(2015, 11, 18), items='beef,
chocolate')
Row(Member_number='2115', Date=datetime.date(2015, 11, 18), items='hamburger
meat, soda, cling film/bags')
Row(Member_number='2410', Date=datetime.date(2015, 11, 18), items='citrus fruit,
hard cheese, butter, soft cheese')
Row(Member_number='2545', Date=datetime.date(2015, 11, 18), items='citrus fruit,
frozen dessert')
Row(Member_number='2625', Date=datetime.date(2015, 11, 18), items='other
vegetables, specialty bar, long life bakery product')
Row(Member number='2704', Date=datetime.date(2015, 11, 18), items='frankfurter,
red/blush wine, rolls/buns')
Row(Member_number='3046', Date=datetime.date(2015, 11, 18), items='whole milk,
hamburger meat, pip fruit, curd, margarine, instant coffee, misc. beverages')
Row(Member_number='3455', Date=datetime.date(2015, 11, 18), items='pastry, soft
cheese')
Row(Member number='3489', Date=datetime.date(2015, 11, 18), items='berries,
other vegetables')
Row(Member number='3495', Date=datetime.date(2015, 11, 18), items='white wine,
sliced cheese, whole milk, oil, rolls/buns')
Row(Member number='3848', Date=datetime.date(2015, 11, 18), items='tropical
fruit, shopping bags, hard cheese')
Row(Member number='3862', Date=datetime.date(2015, 11, 18), items='sliced
cheese, newspapers, dog food, fruit/vegetable juice, rolls/buns, butter, hygiene
articles, yogurt')
Row(Member_number='3886', Date=datetime.date(2015, 11, 18), items='frankfurter,
whole milk')
Row(Member_number='3986', Date=datetime.date(2015, 11, 18), items='yogurt,
citrus fruit')
Row(Member number='4598', Date=datetime.date(2015, 11, 18), items='cream cheese
, whole milk, root vegetables, frankfurter, other vegetables, dish cleaner,
mustard, hygiene articles')
Row(Member_number='4694', Date=datetime.date(2015, 11, 18), items='hamburger
meat, oil')
Row(Member_number='4947', Date=datetime.date(2015, 11, 18), items='citrus fruit,
chicken')
Row(Member number='1012', Date=datetime.date(2015, 11, 19), items='tropical
fruit, root vegetables, rolls/buns, onions, shopping bags')
Row(Member number='1075', Date=datetime.date(2015, 11, 19), items='frankfurter,
citrus fruit, bottled water, fruit/vegetable juice')
Row(Member number='1125', Date=datetime.date(2015, 11, 19), items='popcorn,
citrus fruit')
Row(Member number='1230', Date=datetime.date(2015, 11, 19), items='frankfurter,
```

```
pastry, misc. beverages')
Row(Member_number='1385', Date=datetime.date(2015, 11, 19), items='pip fruit,
turkey, yogurt, root vegetables, other vegetables, chocolate, fruit/vegetable
juice')
Row(Member number='1566', Date=datetime.date(2015, 11, 19), items='tropical
fruit, bottled beer')
Row(Member number='1628', Date=datetime.date(2015, 11, 19), items='soda, pastry,
bottled water')
Row(Member number='1770', Date=datetime.date(2015, 11, 19), items='semi-finished
bread, shopping bags')
Row(Member number='2020', Date=datetime.date(2015, 11, 19), items='sausage,
sliced cheese, yogurt, pastry, hygiene articles')
Row(Member_number='2042', Date=datetime.date(2015, 11, 19), items='meat, pork')
Row(Member_number='2127', Date=datetime.date(2015, 11, 19), items='citrus fruit,
bottled beer, ice cream')
Row(Member_number='2758', Date=datetime.date(2015, 11, 19), items='hamburger
meat, sausage, grapes, soda')
Row(Member number='2885', Date=datetime.date(2015, 11, 19), items='chicken,
bottled water')
Row(Member number='2924', Date=datetime.date(2015, 11, 19), items='rolls/buns,
yogurt, sugar')
Row(Member number='3284', Date=datetime.date(2015, 11, 19), items='curd, whole
Row(Member_number='3315', Date=datetime.date(2015, 11, 19), items='tropical
fruit, candy')
Row(Member number='3937', Date=datetime.date(2015, 11, 19), items='tropical
fruit, salty snack')
Row(Member_number='3946', Date=datetime.date(2015, 11, 19), items='root
vegetables, newspapers')
Row(Member_number='4068', Date=datetime.date(2015, 11, 19), items='newspapers,
tropical fruit')
Row(Member_number='4489', Date=datetime.date(2015, 11, 19), items='shopping
bags, curd')
Row(Member_number='4751', Date=datetime.date(2015, 11, 19), items='chicken,
Row(Member_number='4804', Date=datetime.date(2015, 11, 19), items='pork, whole
milk, domestic eggs')
Row(Member_number='1110', Date=datetime.date(2015, 11, 20), items='whole milk,
soda')
Row(Member_number='1111', Date=datetime.date(2015, 11, 20), items='beef, semi-
finished bread')
Row(Member number='1160', Date=datetime.date(2015, 11, 20), items='pip fruit,
tropical fruit, mustard')
Row(Member number='1234', Date=datetime.date(2015, 11, 20), items='salty snack,
root vegetables')
Row(Member_number='1306', Date=datetime.date(2015, 11, 20), items='whole milk,
chocolate marshmallow, rolls/buns')
Row(Member_number='1456', Date=datetime.date(2015, 11, 20), items='newspapers,
```

```
domestic eggs')
Row(Member_number='1477', Date=datetime.date(2015, 11, 20), items='sausage, pot
plants')
Row(Member_number='1655', Date=datetime.date(2015, 11, 20), items='sausage,
whole milk')
Row(Member_number='1731', Date=datetime.date(2015, 11, 20), items='chicken,
Row(Member_number='1814', Date=datetime.date(2015, 11, 20), items='beef,
waffles')
Row(Member_number='1892', Date=datetime.date(2015, 11, 20), items='grapes,
honey')
Row(Member_number='1979', Date=datetime.date(2015, 11, 20), items='yogurt,
frozen meals')
Row(Member_number='2271', Date=datetime.date(2015, 11, 20), items='whole milk,
root vegetables')
Row(Member_number='3184', Date=datetime.date(2015, 11, 20), items='citrus fruit,
fruit/vegetable juice')
Row(Member_number='3208', Date=datetime.date(2015, 11, 20), items='rolls/buns,
chicken, cream cheese , dishes')
Row(Member_number='3244', Date=datetime.date(2015, 11, 20), items='sausage,
newspapers')
Row(Member number='3663', Date=datetime.date(2015, 11, 20), items='citrus fruit,
rolls/buns')
Row(Member number='4932', Date=datetime.date(2015, 11, 20), items='tropical
fruit, soda')
Row(Member_number='1199', Date=datetime.date(2015, 11, 21), items='rolls/buns,
whole milk, white bread, popcorn')
Row(Member number='1259', Date=datetime.date(2015, 11, 21), items='sausage,
grapes, sliced cheese, napkins')
Row(Member_number='1380', Date=datetime.date(2015, 11, 21), items='whole milk,
soda')
Row(Member_number='1480', Date=datetime.date(2015, 11, 21), items='rolls/buns,
soda')
Row(Member_number='1825', Date=datetime.date(2015, 11, 21),
items='fruit/vegetable juice, baking powder, oil')
Row(Member_number='1979', Date=datetime.date(2015, 11, 21), items='pastry,
Row(Member_number='2286', Date=datetime.date(2015, 11, 21), items='ham, whole
milk')
Row(Member_number='2410', Date=datetime.date(2015, 11, 21), items='bottled
water, berries, other vegetables, rolls/buns')
Row(Member number='2421', Date=datetime.date(2015, 11, 21), items='abrasive
cleaner, citrus fruit, whole milk, long life bakery product')
Row(Member number='2694', Date=datetime.date(2015, 11, 21), items='tropical
fruit, pip fruit')
Row(Member_number='3190', Date=datetime.date(2015, 11, 21), items='whole milk,
liquor')
Row(Member_number='3484', Date=datetime.date(2015, 11, 21), items='whole milk,
```

```
semi-finished bread, brandy')
Row(Member_number='3599', Date=datetime.date(2015, 11, 21), items='dessert,
whipped/sour cream')
Row(Member_number='3737', Date=datetime.date(2015, 11, 21), items='liquor
(appetizer), chocolate, soda')
Row(Member_number='3741', Date=datetime.date(2015, 11, 21), items='rolls/buns,
other vegetables')
Row(Member_number='4003', Date=datetime.date(2015, 11, 21), items='whole milk,
root vegetables')
Row(Member_number='4220', Date=datetime.date(2015, 11, 21), items='pip fruit,
beef, whole milk, other vegetables')
Row(Member_number='4355', Date=datetime.date(2015, 11, 21), items='bottled
beer')
Row(Member number='4727', Date=datetime.date(2015, 11, 21), items='frankfurter,
whole milk')
Row(Member number='4798', Date=datetime.date(2015, 11, 21), items='pip fruit,
shopping bags, yogurt')
Row(Member_number='1197', Date=datetime.date(2015, 11, 22), items='root
vegetables, citrus fruit, misc. beverages, sliced cheese, packaged
fruit/vegetables, yogurt, whipped/sour cream')
Row(Member_number='1482', Date=datetime.date(2015, 11, 22), items='beverages,
canned fish')
Row(Member_number='1670', Date=datetime.date(2015, 11, 22), items='fish, pickled
vegetables, hard cheese')
Row(Member number='1711', Date=datetime.date(2015, 11, 22), items='frankfurter,
yogurt')
Row(Member number='1834', Date=datetime.date(2015, 11, 22), items='meat, canned
Row(Member_number='2394', Date=datetime.date(2015, 11, 22), items='butter, whole
Row(Member number='2421', Date=datetime.date(2015, 11, 22), items='sausage,
whole milk')
Row(Member_number='2499', Date=datetime.date(2015, 11, 22), items='root
vegetables, frozen meals')
Row(Member number='2599', Date=datetime.date(2015, 11, 22), items='liquor,
tropical fruit, other vegetables')
Row(Member_number='2650', Date=datetime.date(2015, 11, 22), items='frankfurter,
Row(Member_number='2688', Date=datetime.date(2015, 11, 22), items='dish cleaner,
whole milk, canned fish')
Row(Member_number='2818', Date=datetime.date(2015, 11, 22), items='whole milk')
Row(Member_number='3483', Date=datetime.date(2015, 11, 22), items='pasta,
tropical fruit')
Row(Member_number='3546', Date=datetime.date(2015, 11, 22), items='whole milk,
other vegetables, rolls/buns, Instant food products')
Row(Member_number='3760', Date=datetime.date(2015, 11, 22), items='whole milk,
pork, UHT-milk, sliced cheese, beverages')
Row(Member number='3891', Date=datetime.date(2015, 11, 22), items='brown bread,
```

```
sugar')
Row(Member_number='4376', Date=datetime.date(2015, 11, 22), items='pork, root
vegetables')
Row(Member_number='4467', Date=datetime.date(2015, 11, 22), items='frozen
vegetables, berries, whole milk, candy')
Row(Member_number='4502', Date=datetime.date(2015, 11, 22), items='root
vegetables, soda')
Row(Member_number='4734', Date=datetime.date(2015, 11, 22), items='tropical
fruit, rolls/buns')
Row(Member_number='4781', Date=datetime.date(2015, 11, 22), items='ham, cream
cheese ')
Row(Member_number='1264', Date=datetime.date(2015, 11, 23), items='sugar, curd')
Row(Member_number='1276', Date=datetime.date(2015, 11, 23), items='condensed
milk, hard cheese')
Row(Member_number='1296', Date=datetime.date(2015, 11, 23), items='other
vegetables, yogurt')
Row(Member_number='1583', Date=datetime.date(2015, 11, 23), items='soda, pip
fruit, sugar, brown bread')
Row(Member_number='1952', Date=datetime.date(2015, 11, 23), items='finished
products, pork, onions, pasta, tropical fruit, soda, pastry')
Row(Member_number='2003', Date=datetime.date(2015, 11, 23), items='sausage,
frozen dessert, brown bread, other vegetables')
Row(Member_number='2007', Date=datetime.date(2015, 11, 23), items='cream cheese
, whole milk, brown bread')
Row(Member_number='2082', Date=datetime.date(2015, 11, 23), items='brown bread,
domestic eggs')
Row(Member_number='2362', Date=datetime.date(2015, 11, 23), items='specialty
chocolate, frankfurter, citrus fruit, candy, brown bread')
Row(Member_number='2756', Date=datetime.date(2015, 11, 23), items='hamburger
meat, curd')
Row(Member number='2847', Date=datetime.date(2015, 11, 23), items='canned beer,
white bread')
Row(Member number='3175', Date=datetime.date(2015, 11, 23), items='chicken,
soda, canned fish')
Row(Member number='3189', Date=datetime.date(2015, 11, 23), items='bottled
water, fruit/vegetable juice')
Row(Member number='3872', Date=datetime.date(2015, 11, 23), items='beef, turkey,
grapes, shopping bags, sliced cheese, bottled water')
Row(Member_number='3955', Date=datetime.date(2015, 11, 23), items='whipped/sour
cream, root vegetables')
Row(Member_number='3967', Date=datetime.date(2015, 11, 23), items='whole milk,
sauces')
Row(Member_number='4217', Date=datetime.date(2015, 11, 23), items='pork,
Row(Member_number='4452', Date=datetime.date(2015, 11, 23), items='pork, other
vegetables')
Row(Member_number='4706', Date=datetime.date(2015, 11, 23), items='sausage,
chocolate')
```

```
Row(Member number='4942', Date=datetime.date(2015, 11, 23), items='frankfurter,
sliced cheese')
Row(Member_number='2056', Date=datetime.date(2015, 11, 24), items='newspapers,
root vegetables, pastry, margarine')
Row(Member number='2106', Date=datetime.date(2015, 11, 24), items='frankfurter,
cream cheese , yogurt, baking powder')
Row(Member number='2164', Date=datetime.date(2015, 11, 24), items='rolls/buns,
brown bread, whole milk, pasta, curd, butter milk')
Row(Member_number='2436', Date=datetime.date(2015, 11, 24), items='misc.
beverages, whole milk')
Row(Member_number='2481', Date=datetime.date(2015, 11, 24), items='rolls/buns,
berries, shopping bags, rice')
Row(Member_number='2542', Date=datetime.date(2015, 11, 24), items='whole milk,
root vegetables, margarine')
Row(Member_number='2547', Date=datetime.date(2015, 11, 24), items='soda, pet
care, butter')
Row(Member_number='2694', Date=datetime.date(2015, 11, 24), items='whole milk,
ham, pip fruit, hard cheese, frozen fish, shopping bags, pot plants')
Row(Member_number='2849', Date=datetime.date(2015, 11, 24), items='pork,
yogurt')
Row(Member_number='2899', Date=datetime.date(2015, 11, 24), items='chicken,
cling film/bags, rolls/buns')
Row(Member_number='3152', Date=datetime.date(2015, 11, 24), items='rolls/buns,
whole milk, semi-finished bread, processed cheese')
Row(Member_number='3460', Date=datetime.date(2015, 11, 24), items='domestic
eggs, frozen vegetables')
Row(Member_number='3497', Date=datetime.date(2015, 11, 24), items='pet care,
Row(Member number='3580', Date=datetime.date(2015, 11, 24), items='ice cream,
canned beer')
Row(Member_number='3680', Date=datetime.date(2015, 11, 24), items='pork, whole
Row(Member_number='4169', Date=datetime.date(2015, 11, 24), items='whole milk,
bottled water')
Row(Member number='4332', Date=datetime.date(2015, 11, 24), items='pork,
processed cheese')
Row(Member number='4393', Date=datetime.date(2015, 11, 24),
items='fruit/vegetable juice, herbs, dishes')
Row(Member_number='4793', Date=datetime.date(2015, 11, 24), items='root
vegetables, yogurt')
Row(Member_number='4806', Date=datetime.date(2015, 11, 24), items='tropical
fruit, whole milk')
Row(Member number='4938', Date=datetime.date(2015, 11, 24), items='sausage,
tropical fruit, frozen vegetables, other vegetables, shopping bags')
Row(Member_number='4951', Date=datetime.date(2015, 11, 24), items='whole milk,
pip fruit')
Row(Member_number='4996', Date=datetime.date(2015, 11, 24), items='rolls/buns,
misc. beverages, bottled water, decalcifier, semi-finished bread, soda')
```

```
Row(Member number='1000', Date=datetime.date(2015, 11, 25), items='sausage,
hygiene articles')
Row(Member number='1045', Date=datetime.date(2015, 11, 25), items='chicken,
onions')
Row(Member number='1452', Date=datetime.date(2015, 11, 25), items='tropical
fruit, other vegetables, rice')
Row(Member number='1635', Date=datetime.date(2015, 11, 25), items='butter,
citrus fruit')
Row(Member number='2168', Date=datetime.date(2015, 11, 25), items='bottled beer,
rolls/buns, waffles')
Row(Member number='2314', Date=datetime.date(2015, 11, 25), items='pork,
Row(Member_number='2486', Date=datetime.date(2015, 11, 25), items='sausage,
vogurt')
Row(Member_number='2654', Date=datetime.date(2015, 11, 25), items='sausage,
berries, pasta')
Row(Member_number='2952', Date=datetime.date(2015, 11, 25), items='frankfurter,
whole milk, shopping bags, rolls/buns')
Row(Member_number='2978', Date=datetime.date(2015, 11, 25), items='chewing gum,
other vegetables, pip fruit')
Row(Member_number='3031', Date=datetime.date(2015, 11, 25), items='beef, brown
bread')
Row(Member_number='3186', Date=datetime.date(2015, 11, 25), items='liver loaf,
other vegetables')
Row(Member_number='3563', Date=datetime.date(2015, 11, 25), items='spread
cheese, whole milk')
Row(Member number='3637', Date=datetime.date(2015, 11, 25), items='frankfurter,
root vegetables, yogurt, whole milk')
Row(Member number='4236', Date=datetime.date(2015, 11, 25), items='beef,
frankfurter, canned beer, pip fruit, brown bread, frozen vegetables, newspapers,
misc. beverages')
Row(Member_number='4277', Date=datetime.date(2015, 11, 25), items='yogurt,
grapes')
Row(Member_number='4608', Date=datetime.date(2015, 11, 25),
items='fruit/vegetable juice, frozen vegetables, chocolate')
Row(Member_number='4905', Date=datetime.date(2015, 11, 25), items='berries,
other vegetables')
Row(Member_number='4910', Date=datetime.date(2015, 11, 25), items='condensed
milk, pastry')
Row(Member_number='1040', Date=datetime.date(2015, 11, 26), items='tropical
fruit, chicken, onions, packaged fruit/vegetables')
Row(Member number='1251', Date=datetime.date(2015, 11, 26), items='canned beer,
dessert, fruit/vegetable juice')
Row(Member_number='1385', Date=datetime.date(2015, 11, 26), items='whole milk,
frozen vegetables')
Row(Member_number='1427', Date=datetime.date(2015, 11, 26), items='rolls/buns,
soda, other vegetables, pip fruit')
Row(Member number='1526', Date=datetime.date(2015, 11, 26), items='sausage,
```

```
whole milk, yogurt')
Row(Member_number='1540', Date=datetime.date(2015, 11, 26), items='skin care,
frankfurter, root vegetables, fruit/vegetable juice')
Row(Member_number='1985', Date=datetime.date(2015, 11, 26), items='bottled
water, whole milk, rolls/buns')
Row(Member_number='2215', Date=datetime.date(2015, 11, 26), items='citrus fruit,
cream cheese ')
Row(Member_number='2560', Date=datetime.date(2015, 11, 26), items='sausage,
pork, pip fruit, soda, beef, fruit/vegetable juice, root vegetables, berries,
misc. beverages')
Row(Member number='2578', Date=datetime.date(2015, 11, 26), items='canned beer,
rolls/buns')
Row(Member number='2672', Date=datetime.date(2015, 11, 26), items='frankfurter,
pastry')
Row(Member_number='3207', Date=datetime.date(2015, 11, 26), items='bottled beer,
Row(Member_number='3600', Date=datetime.date(2015, 11, 26), items='hamburger
meat, whole milk')
Row(Member_number='3724', Date=datetime.date(2015, 11, 26), items='curd,
sausage')
Row(Member_number='3794', Date=datetime.date(2015, 11, 26), items='tropical
fruit, other vegetables, berries, butter')
Row(Member_number='4139', Date=datetime.date(2015, 11, 26), items='coffee,
rolls/buns, soda')
Row(Member_number='4503', Date=datetime.date(2015, 11, 26), items='pastry,
coffee')
Row(Member_number='1196', Date=datetime.date(2015, 11, 27), items='mayonnaise,
candy, rolls/buns, bottled beer')
Row(Member number='1259', Date=datetime.date(2015, 11, 27), items='pork, root
vegetables')
Row(Member number='1625', Date=datetime.date(2015, 11, 27), items='packaged
fruit/vegetables, rolls/buns, root vegetables, napkins, soft cheese')
Row(Member_number='1742', Date=datetime.date(2015, 11, 27), items='other
vegetables, root vegetables')
Row(Member number='1823', Date=datetime.date(2015, 11, 27), items='whole milk,
berries, bottled water, curd, napkins')
Row(Member number='1843', Date=datetime.date(2015, 11, 27), items='bottled beer,
root vegetables')
Row(Member_number='1878', Date=datetime.date(2015, 11, 27), items='citrus fruit,
whole milk')
Row(Member_number='2063', Date=datetime.date(2015, 11, 27), items='root
vegetables, herbs')
Row(Member_number='2107', Date=datetime.date(2015, 11, 27), items='frankfurter,
bottled water')
Row(Member_number='2273', Date=datetime.date(2015, 11, 27), items='hamburger
meat, root vegetables')
Row(Member_number='2633', Date=datetime.date(2015, 11, 27), items='other
vegetables, newspapers, waffles')
```

```
Row(Member_number='2957', Date=datetime.date(2015, 11, 27), items='photo/film,
grapes')
Row(Member number='3067', Date=datetime.date(2015, 11, 27), items='misc.
beverages, frozen meals')
Row(Member number='3165', Date=datetime.date(2015, 11, 27), items='pip fruit,
specialty chocolate, liquor, rolls/buns')
Row(Member number='3201', Date=datetime.date(2015, 11, 27), items='tropical
fruit, berries, whole milk, soap')
Row(Member_number='3239', Date=datetime.date(2015, 11, 27), items='citrus fruit,
yogurt')
Row(Member number='3447', Date=datetime.date(2015, 11, 27), items='frankfurter,
ice cream, mustard, soda')
Row(Member_number='3467', Date=datetime.date(2015, 11, 27), items='pip fruit,
citrus fruit')
Row(Member_number='3608', Date=datetime.date(2015, 11, 27), items='UHT-milk,
rolls/buns')
Row(Member_number='3661', Date=datetime.date(2015, 11, 27), items='butter, misc.
beverages, shopping bags')
Row(Member_number='3679', Date=datetime.date(2015, 11, 27), items='grapes')
Row(Member number='3736', Date=datetime.date(2015, 11, 27), items='soda, beef,
other vegetables, flour')
Row(Member number='3773', Date=datetime.date(2015, 11, 27), items='ham, soda,
specialty chocolate')
Row(Member_number='4484', Date=datetime.date(2015, 11, 27), items='rolls/buns,
pork')
Row(Member_number='4574', Date=datetime.date(2015, 11, 27), items='bottled beer,
whole milk')
Row(Member number='4624', Date=datetime.date(2015, 11, 27), items='frankfurter,
pork, sliced cheese, candy, pastry, shopping bags')
Row(Member_number='4827', Date=datetime.date(2015, 11, 27), items='canned beer,
frankfurter, brown bread, pip fruit, frozen vegetables, pudding powder')
Row(Member_number='1339', Date=datetime.date(2015, 11, 28), items='bottled
water, whole milk, frozen vegetables')
Row(Member_number='1438', Date=datetime.date(2015, 11, 28), items='frankfurter,
UHT-milk, sliced cheese')
Row(Member_number='1488', Date=datetime.date(2015, 11, 28), items='onions,
Row(Member_number='1515', Date=datetime.date(2015, 11, 28), items='waffles,
pasta')
Row(Member_number='2072', Date=datetime.date(2015, 11, 28), items='frankfurter,
other vegetables')
Row(Member_number='2188', Date=datetime.date(2015, 11, 28), items='rolls/buns,
bottled beer')
Row(Member number='2331', Date=datetime.date(2015, 11, 28), items='canned beer,
tropical fruit, bottled beer')
Row(Member_number='2340', Date=datetime.date(2015, 11, 28), items='butter, whole
milk')
Row(Member_number='2403', Date=datetime.date(2015, 11, 28), items='whole milk,
```

```
chewing gum')
Row(Member_number='2649', Date=datetime.date(2015, 11, 28), items='chocolate,
root vegetables')
Row(Member_number='2678', Date=datetime.date(2015, 11, 28), items='cream cheese
. dessert')
Row(Member_number='2699', Date=datetime.date(2015, 11, 28), items='whipped/sour
cream, pastry')
Row(Member_number='2728', Date=datetime.date(2015, 11, 28), items='whole milk')
Row(Member_number='3039', Date=datetime.date(2015, 11, 28), items='pip fruit,
whole milk')
Row(Member_number='3547', Date=datetime.date(2015, 11, 28), items='bottled
water, soda, domestic eggs, jam, whole milk')
Row(Member_number='3735', Date=datetime.date(2015, 11, 28), items='soda,
rolls/buns')
Row(Member_number='4097', Date=datetime.date(2015, 11, 28), items='hygiene
articles, grapes')
Row(Member_number='4110', Date=datetime.date(2015, 11, 28), items='whole milk,
root vegetables')
Row(Member_number='4134', Date=datetime.date(2015, 11, 28), items='canned beer,
dessert')
Row(Member_number='4352', Date=datetime.date(2015, 11, 28), items='sausage, dog
food')
Row(Member_number='4392', Date=datetime.date(2015, 11, 28), items='ham, whole
milk, shopping bags')
Row(Member_number='4442', Date=datetime.date(2015, 11, 28), items='whole milk,
whipped/sour cream')
Row(Member number='4538', Date=datetime.date(2015, 11, 28), items='sausage,
liquor (appetizer)')
Row(Member number='4821', Date=datetime.date(2015, 11, 28), items='tropical
fruit, whole milk, rolls/buns, cream cheese, shopping bags')
Row(Member_number='1116', Date=datetime.date(2015, 11, 29), items='frankfurter,
rolls/buns')
Row(Member_number='1182', Date=datetime.date(2015, 11, 29), items='hamburger
meat, pip fruit')
Row(Member number='1331', Date=datetime.date(2015, 11, 29), items='other
vegetables, root vegetables')
Row(Member number='1354', Date=datetime.date(2015, 11, 29), items='canned beer,
ice cream, newspapers, pastry, bottled beer')
Row(Member_number='1366', Date=datetime.date(2015, 11, 29), items='whole milk,
Row(Member_number='1649', Date=datetime.date(2015, 11, 29), items='curd, frozen
meals')
Row(Member_number='1665', Date=datetime.date(2015, 11, 29), items='other
vegetables, soda')
Row(Member_number='1846', Date=datetime.date(2015, 11, 29), items='sausage,
bottled water, mustard, bottled beer')
Row(Member_number='1901', Date=datetime.date(2015, 11, 29), items='yogurt,
rolls/buns, berries, whole milk, zwieback, brown bread, newspapers')
```

```
Row(Member_number='2211', Date=datetime.date(2015, 11, 29), items='other
vegetables, newspapers')
Row(Member number='2326', Date=datetime.date(2015, 11, 29), items='pork,
beverages, misc. beverages, chewing gum')
Row(Member number='3035', Date=datetime.date(2015, 11, 29), items='yogurt,
bottled beer')
Row(Member number='3051', Date=datetime.date(2015, 11, 29), items='frankfurter,
other vegetables, ham, fruit/vegetable juice, rolls/buns')
Row(Member number='3325', Date=datetime.date(2015, 11, 29), items='beef, white
bread, frozen vegetables')
Row(Member_number='3354', Date=datetime.date(2015, 11, 29), items='berries,
canned fish, waffles')
Row(Member_number='3384', Date=datetime.date(2015, 11, 29), items='bottled
water, frozen vegetables')
Row(Member_number='3449', Date=datetime.date(2015, 11, 29), items='pork, soda,
rolls/buns, brown bread')
Row(Member_number='3503', Date=datetime.date(2015, 11, 29), items='canned beer,
pip fruit')
Row(Member_number='3729', Date=datetime.date(2015, 11, 29), items='salty snack,
specialty bar, brown bread, instant coffee')
Row(Member_number='3732', Date=datetime.date(2015, 11, 29), items='berries, oil,
cat food')
Row(Member_number='3902', Date=datetime.date(2015, 11, 29), items='ham, whole
milk')
Row(Member_number='4437', Date=datetime.date(2015, 11, 29), items='domestic
eggs, frozen fish')
Row(Member number='4509', Date=datetime.date(2015, 11, 29), items='tropical
fruit, berries, beef, butter milk, yogurt, sliced cheese')
Row(Member_number='4532', Date=datetime.date(2015, 11, 29), items='hygiene
articles, chicken')
Row(Member number='4580', Date=datetime.date(2015, 11, 29), items='liquor
(appetizer), onions, whole milk, butter, cream cheese, specialty cheese')
Row(Member number='4628', Date=datetime.date(2015, 11, 29), items='salty snack,
citrus fruit, yogurt, berries')
Row(Member number='4641', Date=datetime.date(2015, 11, 29), items='ham, other
vegetables')
Row(Member number='4914', Date=datetime.date(2015, 11, 29), items='whole milk')
Row(Member_number='1088', Date=datetime.date(2015, 11, 30), items='tropical
fruit, meat, other vegetables, domestic eggs, baking powder')
Row(Member_number='1223', Date=datetime.date(2015, 11, 30), items='ham, rum')
Row(Member_number='1504', Date=datetime.date(2015, 11, 30), items='curd, whole
milk')
Row(Member_number='1538', Date=datetime.date(2015, 11, 30), items='tropical
fruit, root vegetables')
Row(Member number='1565', Date=datetime.date(2015, 11, 30), items='canned beer,
shopping bags, whole milk')
Row(Member_number='1659', Date=datetime.date(2015, 11, 30), items='coffee, whole
milk')
```

```
Row(Member number='1804', Date=datetime.date(2015, 11, 30), items='sausage,
white bread, whole milk, butter')
Row(Member_number='2505', Date=datetime.date(2015, 11, 30), items='bottled
water, chicken, processed cheese, whole milk')
Row(Member number='2765', Date=datetime.date(2015, 11, 30), items='candy,
yogurt')
Row(Member number='2914', Date=datetime.date(2015, 11, 30), items='meat, bottled
Row(Member number='3066', Date=datetime.date(2015, 11, 30), items='root
vegetables')
Row(Member_number='3227', Date=datetime.date(2015, 11, 30), items='soda, pip
fruit, pastry, jam')
Row(Member_number='3304', Date=datetime.date(2015, 11, 30), items='root
vegetables, berries, other vegetables, hygiene articles, white bread,
whipped/sour cream')
Row(Member number='3545', Date=datetime.date(2015, 11, 30), items='frankfurter,
whipped/sour cream')
Row(Member number='3677', Date=datetime.date(2015, 11, 30), items='sausage,
frankfurter, napkins, soda')
Row(Member number='4104', Date=datetime.date(2015, 11, 30), items='detergent,
pot plants')
Row(Member number='4482', Date=datetime.date(2015, 11, 30), items='hamburger
meat, whole milk, rolls/buns, yogurt, frozen vegetables')
Row(Member_number='4574', Date=datetime.date(2015, 11, 30), items='frankfurter,
sausage, margarine, rolls/buns, bottled beer, mustard')
Row(Member_number='4964', Date=datetime.date(2015, 11, 30), items='whole milk,
domestic eggs')
Row(Member_number='1667', Date=datetime.date(2015, 12, 1), items='beef, onions')
Row(Member_number='1977', Date=datetime.date(2015, 12, 1), items='whole milk,
beef, canned beer')
Row(Member number='2021', Date=datetime.date(2015, 12, 1), items='meat, whole
Row(Member number='2264', Date=datetime.date(2015, 12, 1), items='sparkling
wine, tropical fruit')
Row(Member number='2290', Date=datetime.date(2015, 12, 1), items='whole milk,
hamburger meat, newspapers')
Row(Member number='2443', Date=datetime.date(2015, 12, 1), items='frankfurter,
root vegetables, pastry, napkins, long life bakery product')
Row(Member_number='2469', Date=datetime.date(2015, 12, 1), items='pork, whole
milk, pasta')
Row(Member_number='2523', Date=datetime.date(2015, 12, 1), items='yogurt, dog
food, semi-finished bread, napkins')
Row(Member_number='3318', Date=datetime.date(2015, 12, 1), items='other
vegetables, cat food')
Row(Member_number='3356', Date=datetime.date(2015, 12, 1), items='meat, whole
milk, processed cheese, butter')
Row(Member_number='3774', Date=datetime.date(2015, 12, 1), items='bottled beer,
rolls/buns')
```

```
Row(Member number='4035', Date=datetime.date(2015, 12, 1), items='sausage,
canned beer, spices')
Row(Member number='4667', Date=datetime.date(2015, 12, 1), items='root
vegetables, other vegetables')
Row(Member number='4757', Date=datetime.date(2015, 12, 1), items='frozen meals,
yogurt')
Row (Member number='1042', Date=datetime.date(2015, 12, 2), items='beef,
dessert')
Row(Member number='1311', Date=datetime.date(2015, 12, 2), items='candy,
berries, mustard')
Row(Member number='1478', Date=datetime.date(2015, 12, 2), items='pork, bottled
Row(Member_number='1574', Date=datetime.date(2015, 12, 2), items='frankfurter,
brown bread')
Row(Member_number='1622', Date=datetime.date(2015, 12, 2), items='canned beer,
tropical fruit, margarine')
Row(Member_number='2061', Date=datetime.date(2015, 12, 2), items='beef, flower
(seeds)')
Row(Member_number='2143', Date=datetime.date(2015, 12, 2), items='soda, onions')
Row(Member number='2380', Date=datetime.date(2015, 12, 2), items='bottled water,
other vegetables, pastry, rolls/buns, domestic eggs')
Row(Member number='2399', Date=datetime.date(2015, 12, 2), items='canned beer,
curd, pastry')
Row(Member_number='2513', Date=datetime.date(2015, 12, 2), items='canned beer,
coffee')
Row(Member_number='2523', Date=datetime.date(2015, 12, 2), items='soda,
margarine')
Row(Member_number='2589', Date=datetime.date(2015, 12, 2), items='canned beer,
sausage, other vegetables, rolls/buns')
Row(Member_number='2604', Date=datetime.date(2015, 12, 2), items='root
vegetables, frankfurter, other vegetables, mayonnaise')
Row(Member_number='2706', Date=datetime.date(2015, 12, 2), items='specialty
chocolate, other vegetables')
Row(Member_number='2840', Date=datetime.date(2015, 12, 2), items='beverages,
curd')
Row(Member_number='3216', Date=datetime.date(2015, 12, 2), items='whole milk,
newspapers')
Row(Member_number='3549', Date=datetime.date(2015, 12, 2), items='brown bread,
tropical fruit, rolls/buns')
Row(Member_number='3687', Date=datetime.date(2015, 12, 2), items='whole milk,
rolls/buns, herbs, beverages, soda')
Row(Member_number='3691', Date=datetime.date(2015, 12, 2), items='yogurt,
coffee, candy, candles')
Row(Member_number='3824', Date=datetime.date(2015, 12, 2), items='root
vegetables, whole milk')
Row(Member_number='4119', Date=datetime.date(2015, 12, 2), items='tropical
fruit, citrus fruit, soda')
Row(Member_number='4593', Date=datetime.date(2015, 12, 2), items='frankfurter,
```

```
other vegetables, cream cheese ')
Row(Member_number='4600', Date=datetime.date(2015, 12, 2), items='root
vegetables, baking powder')
Row(Member_number='4720', Date=datetime.date(2015, 12, 2), items='soda, curd,
rolls/buns')
Row(Member_number='4724', Date=datetime.date(2015, 12, 2), items='sausage, whole
Row(Member_number='4814', Date=datetime.date(2015, 12, 2), items='root
vegetables, soda, coffee')
Row(Member_number='1100', Date=datetime.date(2015, 12, 3), items='soda, hygiene
articles, grapes, pudding powder, butter milk, butter')
Row(Member number='1114', Date=datetime.date(2015, 12, 3), items='dog food,
sausage, dessert, shopping bags')
Row(Member number='1638', Date=datetime.date(2015, 12, 3), items='whole milk,
hard cheese, candles, bottled beer, shopping bags, jam')
Row(Member_number='1804', Date=datetime.date(2015, 12, 3), items='beef, berries,
root vegetables')
Row(Member_number='2166', Date=datetime.date(2015, 12, 3), items='sauces,
rolls/buns, soda, whipped/sour cream')
Row(Member_number='2225', Date=datetime.date(2015, 12, 3), items='berries, whole
milk')
Row(Member_number='2307', Date=datetime.date(2015, 12, 3), items='whole milk,
grapes, root vegetables, shopping bags')
Row(Member_number='2795', Date=datetime.date(2015, 12, 3), items='beef, cat
food')
Row(Member_number='2861', Date=datetime.date(2015, 12, 3), items='meat, tropical
fruit')
Row(Member number='2875', Date=datetime.date(2015, 12, 3), items='zwieback,
soda, curd')
Row(Member_number='3182', Date=datetime.date(2015, 12, 3), items='butter,
processed cheese, whole milk, curd')
Row(Member_number='4643', Date=datetime.date(2015, 12, 3), items='other
vegetables, coffee')
Row(Member_number='4899', Date=datetime.date(2015, 12, 3), items='chicken,
Row(Member_number='4919', Date=datetime.date(2015, 12, 3), items='newspapers,
chicken, root vegetables, curd')
Row(Member_number='1859', Date=datetime.date(2015, 12, 4), items='canned beer,
beef')
Row(Member_number='2436', Date=datetime.date(2015, 12, 4), items='frankfurter,
zwieback, other vegetables, liquor, bottled water')
Row(Member_number='2957', Date=datetime.date(2015, 12, 4), items='frankfurter,
bottled beer')
Row(Member_number='3250', Date=datetime.date(2015, 12, 4), items='tropical
fruit, whole milk, liquor')
Row(Member_number='3441', Date=datetime.date(2015, 12, 4), items='other
vegetables, frankfurter, root vegetables, newspapers')
Row(Member_number='3581', Date=datetime.date(2015, 12, 4), items='tropical
```

```
fruit, rolls/buns')
Row(Member_number='3666', Date=datetime.date(2015, 12, 4), items='canned beer,
specialty chocolate')
Row(Member_number='3819', Date=datetime.date(2015, 12, 4), items='pork,
processed cheese, beef, white wine, soda, packaged fruit/vegetables, sliced
cheese, beverages')
Row(Member number='3959', Date=datetime.date(2015, 12, 4), items='white bread,
popcorn')
Row(Member number='4530', Date=datetime.date(2015, 12, 4), items='margarine,
fruit/vegetable juice')
Row(Member number='4745', Date=datetime.date(2015, 12, 4), items='bottled beer,
rolls/buns, soda')
Row(Member_number='4831', Date=datetime.date(2015, 12, 4), items='brown bread,
frozen meals, herbs, whole milk, hard cheese')
Row(Member_number='4914', Date=datetime.date(2015, 12, 4), items='frankfurter,
beef')
Row(Member_number='1125', Date=datetime.date(2015, 12, 5), items='condensed
milk, shopping bags')
Row(Member_number='1503', Date=datetime.date(2015, 12, 5), items='pork,
whipped/sour cream, dishes')
Row(Member_number='1803', Date=datetime.date(2015, 12, 5), items='rolls/buns,
yogurt, Instant food products')
Row(Member_number='1932', Date=datetime.date(2015, 12, 5), items='sausage, whole
milk')
Row(Member_number='2015', Date=datetime.date(2015, 12, 5), items='pork, rum')
Row(Member number='2444', Date=datetime.date(2015, 12, 5), items='chocolate
marshmallow, yogurt, soda')
Row(Member_number='2564', Date=datetime.date(2015, 12, 5), items='frozen
dessert, pastry')
Row(Member_number='2600', Date=datetime.date(2015, 12, 5), items='pip fruit,
fruit/vegetable juice')
Row(Member_number='3421', Date=datetime.date(2015, 12, 5), items='citrus fruit,
yogurt')
Row(Member_number='3577', Date=datetime.date(2015, 12, 5), items='white bread,
rolls/buns, whipped/sour cream')
Row(Member_number='3837', Date=datetime.date(2015, 12, 5), items='ham, other
vegetables')
Row(Member_number='3950', Date=datetime.date(2015, 12, 5), items='yogurt,
chicken, bottled water, whole milk, flour, detergent')
Row(Member_number='4027', Date=datetime.date(2015, 12, 5), items='soda,
whipped/sour cream')
Row(Member_number='4108', Date=datetime.date(2015, 12, 5), items='ham, candy')
Row(Member_number='4182', Date=datetime.date(2015, 12, 5), items='cleaner, other
vegetables')
Row(Member_number='4559', Date=datetime.date(2015, 12, 5), items='canned beer,
yogurt, coffee')
Row(Member_number='4875', Date=datetime.date(2015, 12, 5), items='frozen potato
products, frankfurter, brown bread, roll products, detergent')
```

```
Row(Member_number='1076', Date=datetime.date(2015, 12, 6), items='sausage,
butter, bottled water')
Row(Member_number='1183', Date=datetime.date(2015, 12, 6), items='sausage,
bottled beer, dessert, butter, cream cheese, other vegetables, canned beer,
brown bread')
Row(Member number='1662', Date=datetime.date(2015, 12, 6), items='beef, bottled
Row(Member_number='1801', Date=datetime.date(2015, 12, 6), items='ham,
newspapers, waffles')
Row(Member_number='1995', Date=datetime.date(2015, 12, 6), items='soft cheese,
soda, root vegetables, rolls/buns, margarine, shopping bags')
Row(Member number='2093', Date=datetime.date(2015, 12, 6), items='frozen potato
products, whole milk, pastry, rolls/buns, candy, bottled beer')
Row(Member_number='2707', Date=datetime.date(2015, 12, 6), items='frankfurter,
yogurt')
Row(Member_number='2718', Date=datetime.date(2015, 12, 6), items='canned beer,
turkey')
Row(Member_number='2882', Date=datetime.date(2015, 12, 6), items='berries, other
vegetables')
Row(Member number='2902', Date=datetime.date(2015, 12, 6), items='tropical
fruit, other vegetables')
Row(Member number='3015', Date=datetime.date(2015, 12, 6), items='bottled water,
root vegetables')
Row(Member_number='3120', Date=datetime.date(2015, 12, 6), items='sausage,
grapes')
Row(Member_number='3161', Date=datetime.date(2015, 12, 6), items='onions, frozen
dessert')
Row(Member number='3225', Date=datetime.date(2015, 12, 6), items='beef, other
vegetables, whole milk, soda')
Row(Member_number='3728', Date=datetime.date(2015, 12, 6), items='specialty bar,
waffles')
Row(Member number='3765', Date=datetime.date(2015, 12, 6), items='whole milk,
soda, mustard')
Row(Member_number='4056', Date=datetime.date(2015, 12, 6), items='yogurt,
chicken, liquor, chewing gum, soda')
Row(Member_number='4104', Date=datetime.date(2015, 12, 6), items='pork, other
vegetables')
Row(Member_number='4138', Date=datetime.date(2015, 12, 6), items='pork, light
bulbs, waffles')
Row(Member_number='4160', Date=datetime.date(2015, 12, 6), items='citrus fruit,
rolls/buns')
Row(Member_number='4353', Date=datetime.date(2015, 12, 6), items='ham, canned
vegetables')
Row(Member_number='4396', Date=datetime.date(2015, 12, 6), items='beef, salt')
Row(Member_number='4718', Date=datetime.date(2015, 12, 6), items='pork, sausage,
frankfurter, other vegetables, curd, flower soil/fertilizer, margarine')
Row(Member_number='1361', Date=datetime.date(2015, 12, 7), items='sausage,
salt')
```

```
Row(Member number='1485', Date=datetime.date(2015, 12, 7), items='soda, other
vegetables')
Row(Member_number='1780', Date=datetime.date(2015, 12, 7), items='pip fruit,
curd, specialty bar, beverages, sausage, soft cheese, rolls/buns, yogurt, other
vegetables, newspapers')
Row(Member_number='1833', Date=datetime.date(2015, 12, 7), items='soda, yogurt,
whole milk, coffee')
Row(Member_number='2340', Date=datetime.date(2015, 12, 7), items='sausage,
berries, soda, yogurt')
Row(Member_number='2448', Date=datetime.date(2015, 12, 7), items='butter,
rolls/buns')
Row(Member_number='2672', Date=datetime.date(2015, 12, 7), items='beverages,
waffles')
Row(Member_number='2760', Date=datetime.date(2015, 12, 7), items='other
vegetables, newspapers, soda')
Row(Member_number='2785', Date=datetime.date(2015, 12, 7), items='semi-finished
bread, whole milk')
Row(Member number='3005', Date=datetime.date(2015, 12, 7), items='citrus fruit,
fruit/vegetable juice')
Row(Member number='3036', Date=datetime.date(2015, 12, 7), items='frozen fish,
sausage, other vegetables, canned beer, yogurt, shopping bags, beverages,
chewing gum')
Row(Member_number='3285', Date=datetime.date(2015, 12, 7), items='sausage, whole
milk, whipped/sour cream, domestic eggs')
Row(Member_number='3399', Date=datetime.date(2015, 12, 7), items='specialty bar,
other vegetables')
Row(Member_number='3537', Date=datetime.date(2015, 12, 7), items='sausage, semi-
finished bread, coffee')
Row(Member_number='3718', Date=datetime.date(2015, 12, 7), items='canned beer,
root vegetables, pudding powder, processed cheese')
Row(Member_number='3930', Date=datetime.date(2015, 12, 7), items='citrus fruit,
root vegetables, yogurt, soft cheese')
Row(Member_number='4460', Date=datetime.date(2015, 12, 7), items='root
vegetables, canned beer, dessert, chewing gum')
Row(Member number='4734', Date=datetime.date(2015, 12, 7), items='roll products
, whole milk, tropical fruit, rolls/buns')
Row(Member_number='1051', Date=datetime.date(2015, 12, 8), items='other
vegetables, soda, rolls/buns, dishes')
Row(Member_number='1280', Date=datetime.date(2015, 12, 8), items='UHT-milk,
Row(Member_number='1286', Date=datetime.date(2015, 12, 8), items='whole milk,
soda')
Row(Member_number='1861', Date=datetime.date(2015, 12, 8), items='citrus fruit,
roll products ')
Row(Member_number='2067', Date=datetime.date(2015, 12, 8), items='root
vegetables, meat')
Row(Member_number='2422', Date=datetime.date(2015, 12, 8), items='hamburger
meat, sausage, tropical fruit, other vegetables, white bread, bottled water,
```

```
spread cheese, sugar')
Row(Member_number='2484', Date=datetime.date(2015, 12, 8), items='tropical
fruit, newspapers')
Row(Member_number='2558', Date=datetime.date(2015, 12, 8), items='grapes,
rolls/buns')
Row(Member_number='2799', Date=datetime.date(2015, 12, 8), items='whole milk,
hamburger meat, detergent, pickled vegetables')
Row(Member_number='2990', Date=datetime.date(2015, 12, 8), items='beef,
specialty bar')
Row(Member_number='3084', Date=datetime.date(2015, 12, 8), items='chicken,
margarine')
Row(Member number='3132', Date=datetime.date(2015, 12, 8), items='long life
bakery product, soda')
Row(Member_number='3507', Date=datetime.date(2015, 12, 8), items='other
vegetables, red/blush wine')
Row(Member_number='3673', Date=datetime.date(2015, 12, 8), items='frankfurter,
butter milk')
Row(Member_number='4160', Date=datetime.date(2015, 12, 8), items='Instant food
products, pip fruit')
Row(Member number='4373', Date=datetime.date(2015, 12, 8), items='beef,
rolls/buns, seasonal products')
Row(Member_number='4787', Date=datetime.date(2015, 12, 8), items='sausage, whole
Row(Member number='1077', Date=datetime.date(2015, 12, 9), items='tropical
fruit, soda')
Row(Member_number='1146', Date=datetime.date(2015, 12, 9), items='pork,
margarine')
Row(Member_number='1269', Date=datetime.date(2015, 12, 9), items='other
vegetables, liquor, whole milk, butter milk')
Row(Member_number='2370', Date=datetime.date(2015, 12, 9), items='whole milk,
chocolate')
Row(Member_number='2794', Date=datetime.date(2015, 12, 9), items='whole milk,
specialty chocolate')
Row(Member_number='2797', Date=datetime.date(2015, 12, 9), items='chicken,
coffee')
Row(Member_number='3315', Date=datetime.date(2015, 12, 9), items='canned beer,
whole milk, onions, coffee')
Row(Member_number='3328', Date=datetime.date(2015, 12, 9), items='ice cream,
shopping bags, soda')
Row(Member_number='3653', Date=datetime.date(2015, 12, 9), items='detergent,
rolls/buns')
Row(Member_number='4192', Date=datetime.date(2015, 12, 9), items='chewing gum,
coffee, sugar')
Row(Member_number='4286', Date=datetime.date(2015, 12, 9), items='other
vegetables, photo/film')
Row(Member_number='4321', Date=datetime.date(2015, 12, 9), items='sausage,
newspapers')
Row(Member_number='4530', Date=datetime.date(2015, 12, 9), items='domestic
```

```
eggs')
Row(Member_number='1051', Date=datetime.date(2015, 12, 10), items='tropical
fruit, other vegetables, hamburger meat, popcorn, female sanitary products')
Row(Member_number='1264', Date=datetime.date(2015, 12, 10), items='specialty
bar, tropical fruit')
Row(Member_number='1378', Date=datetime.date(2015, 12, 10), items='frankfurter,
hamburger meat')
Row(Member_number='1395', Date=datetime.date(2015, 12, 10), items='sausage,
newspapers')
Row(Member_number='1705', Date=datetime.date(2015, 12, 10), items='baking
powder, soda')
Row(Member number='2843', Date=datetime.date(2015, 12, 10), items='pip fruit,
onions, domestic eggs')
Row(Member number='2883', Date=datetime.date(2015, 12, 10), items='whipped/sour
cream, meat, bottled water, newspapers')
Row(Member_number='3442', Date=datetime.date(2015, 12, 10), items='beef,
sparkling wine, butter milk, misc. beverages, pastry')
Row(Member number='3471', Date=datetime.date(2015, 12, 10), items='sliced
cheese, rolls/buns')
Row(Member number='3608', Date=datetime.date(2015, 12, 10), items='sausage,
whole milk, prosecco, honey, other vegetables, waffles, shopping bags, artif.
sweetener')
Row(Member_number='3682', Date=datetime.date(2015, 12, 10), items='whole milk,
bottled water, waffles')
Row(Member_number='3789', Date=datetime.date(2015, 12, 10), items='whole milk,
salty snack')
Row(Member_number='3997', Date=datetime.date(2015, 12, 10), items='pork, bottled
beer')
Row(Member number='4334', Date=datetime.date(2015, 12, 10), items='frankfurter,
citrus fruit, other vegetables, condensed milk')
Row(Member_number='4335', Date=datetime.date(2015, 12, 10), items='citrus fruit,
bottled water')
Row(Member number='4368', Date=datetime.date(2015, 12, 10), items='sausage,
cream cheese ')
Row(Member number='4410', Date=datetime.date(2015, 12, 10), items='ice cream,
salty snack')
Row(Member number='4537', Date=datetime.date(2015, 12, 10), items='bottled beer,
rolls/buns')
Row(Member_number='4691', Date=datetime.date(2015, 12, 10), items='frozen
chicken, white wine')
Row(Member_number='4845', Date=datetime.date(2015, 12, 10), items='frozen
dessert, berries')
Row(Member_number='4879', Date=datetime.date(2015, 12, 10), items='other
vegetables, yogurt')
Row(Member_number='1098', Date=datetime.date(2015, 12, 11), items='grapes, other
vegetables')
Row(Member_number='1123', Date=datetime.date(2015, 12, 11), items='pork, soda,
canned vegetables')
```

```
Row(Member_number='1170', Date=datetime.date(2015, 12, 11), items='whole milk,
turkey, pork, dog food, rolls/buns, soda, bottled water')
Row(Member_number='1193', Date=datetime.date(2015, 12, 11), items='citrus fruit,
root vegetables')
Row(Member number='1226', Date=datetime.date(2015, 12, 11), items='beef, citrus
fruit, specialty bar, white bread, soda, vinegar, long life bakery product,
domestic eggs')
Row(Member_number='1430', Date=datetime.date(2015, 12, 11), items='rolls/buns,
yogurt')
Row(Member number='1513', Date=datetime.date(2015, 12, 11), items='sausage,
bottled beer')
Row(Member number='2147', Date=datetime.date(2015, 12, 11), items='brown bread,
waffles')
Row(Member number='2639', Date=datetime.date(2015, 12, 11), items='pip fruit,
citrus fruit, curd')
Row(Member_number='2867', Date=datetime.date(2015, 12, 11), items='whole milk,
bottled water, chicken, citrus fruit, canned vegetables')
Row(Member number='3323', Date=datetime.date(2015, 12, 11), items='shopping
bags, sausage')
Row(Member number='3370', Date=datetime.date(2015, 12, 11), items='root
vegetables, sugar')
Row(Member number='3728', Date=datetime.date(2015, 12, 11), items='canned beer,
frozen potato products')
Row(Member_number='3968', Date=datetime.date(2015, 12, 11), items='dessert,
newspapers, white bread')
Row(Member number='4063', Date=datetime.date(2015, 12, 11), items='sausage,
pastry, bottled water')
Row(Member_number='4127', Date=datetime.date(2015, 12, 11), items='bottled beer,
herbs, curd')
Row(Member number='4141', Date=datetime.date(2015, 12, 11), items='frankfurter,
pot plants, brown bread')
Row(Member_number='4686', Date=datetime.date(2015, 12, 11), items='chocolate,
citrus fruit, yogurt')
Row(Member_number='1149', Date=datetime.date(2015, 12, 12), items='seasonal
products, frozen vegetables, yogurt')
Row(Member_number='1187', Date=datetime.date(2015, 12, 12), items='other
vegetables, onions, shopping bags')
Row(Member_number='1565', Date=datetime.date(2015, 12, 12), items='meat,
domestic eggs')
Row(Member_number='1742', Date=datetime.date(2015, 12, 12), items='sausage,
detergent, salty snack')
Row(Member_number='2145', Date=datetime.date(2015, 12, 12), items='whole milk,
coffee, chewing gum')
Row(Member_number='2432', Date=datetime.date(2015, 12, 12), items='whole milk,
condensed milk')
Row(Member number='2517', Date=datetime.date(2015, 12, 12), items='tropical
fruit, syrup, whole milk')
Row(Member number='2893', Date=datetime.date(2015, 12, 12), items='candles,
```

```
canned fish, oil')
Row(Member_number='3225', Date=datetime.date(2015, 12, 12), items='berries,
other vegetables')
Row(Member_number='3609', Date=datetime.date(2015, 12, 12), items='chicken,
vinegar')
Row(Member_number='3645', Date=datetime.date(2015, 12, 12), items='citrus fruit,
frankfurter, bottled water')
Row(Member_number='3699', Date=datetime.date(2015, 12, 12), items='chocolate,
pastry, butter')
Row(Member_number='3737', Date=datetime.date(2015, 12, 12), items='sausage,
soda')
Row(Member number='3864', Date=datetime.date(2015, 12, 12), items='pip fruit,
specialty bar, long life bakery product')
Row(Member number='4238', Date=datetime.date(2015, 12, 12), items='tropical
fruit, packaged fruit/vegetables, cereals')
Row(Member_number='4265', Date=datetime.date(2015, 12, 12), items='rolls/buns,
root vegetables')
Row(Member number='1242', Date=datetime.date(2015, 12, 13), items='beverages,
sugar, pasta, domestic eggs')
Row(Member_number='1349', Date=datetime.date(2015, 12, 13), items='frankfurter,
hard cheese, butter')
Row(Member number='1959', Date=datetime.date(2015, 12, 13), items='whole milk,
pastry, yogurt, pot plants')
Row(Member_number='2239', Date=datetime.date(2015, 12, 13), items='sausage,
whole milk, popcorn, fruit/vegetable juice, canned fruit, soda')
Row(Member number='2413', Date=datetime.date(2015, 12, 13), items='baking
powder, whole milk, rolls/buns')
Row(Member_number='3181', Date=datetime.date(2015, 12, 13), items='grapes,
Row(Member_number='3394', Date=datetime.date(2015, 12, 13), items='sausage,
rolls/buns, waffles')
Row(Member_number='3516', Date=datetime.date(2015, 12, 13), items='photo/film,
whipped/sour cream')
Row(Member_number='3519', Date=datetime.date(2015, 12, 13), items='bottled
water, other vegetables, root vegetables, rolls/buns, soda, sugar')
Row(Member_number='3597', Date=datetime.date(2015, 12, 13), items='ham,
specialty chocolate')
Row(Member_number='3635', Date=datetime.date(2015, 12, 13), items='pastry,
sliced cheese')
Row(Member_number='3888', Date=datetime.date(2015, 12, 13), items='sausage,
shopping bags')
Row(Member_number='3894', Date=datetime.date(2015, 12, 13), items='root
vegetables, sausage, cream cheese , curd, UHT-milk')
Row(Member_number='1038', Date=datetime.date(2015, 12, 14), items='Instant food
products, whipped/sour cream, butter, cake bar')
Row(Member_number='1163', Date=datetime.date(2015, 12, 14), items='whole milk,
beef, citrus fruit, newspapers, bottled water')
Row(Member_number='1242', Date=datetime.date(2015, 12, 14), items='shopping
```

```
bags, tropical fruit')
Row(Member_number='1486', Date=datetime.date(2015, 12, 14), items='other
vegetables, chicken, onions, rolls/buns, spices')
Row(Member_number='1565', Date=datetime.date(2015, 12, 14), items='condensed
milk, berries, tea, frozen vegetables, cat food')
Row(Member_number='1982', Date=datetime.date(2015, 12, 14), items='coffee,
butter')
Row(Member_number='2521', Date=datetime.date(2015, 12, 14), items='root
vegetables, hard cheese, margarine, yogurt')
Row(Member_number='2581', Date=datetime.date(2015, 12, 14), items='meat,
coffee')
Row(Member number='2620', Date=datetime.date(2015, 12, 14), items='sausage,
whole milk')
Row(Member number='2666', Date=datetime.date(2015, 12, 14), items='meat,
fruit/vegetable juice')
Row(Member_number='2843', Date=datetime.date(2015, 12, 14), items='whole milk,
pasta')
Row(Member_number='3475', Date=datetime.date(2015, 12, 14), items='herbs, root
vegetables')
Row(Member number='3566', Date=datetime.date(2015, 12, 14), items='sausage,
Row(Member number='3592', Date=datetime.date(2015, 12, 14), items='oil,
whipped/sour cream, pip fruit, whole milk')
Row(Member_number='3803', Date=datetime.date(2015, 12, 14), items='chicken,
vinegar')
Row(Member number='3838', Date=datetime.date(2015, 12, 14), items='curd,
red/blush wine')
Row(Member number='3998', Date=datetime.date(2015, 12, 14), items='chicken,
berries, whipped/sour cream')
Row(Member_number='4123', Date=datetime.date(2015, 12, 14), items='frankfurter,
hair spray')
Row(Member_number='4312', Date=datetime.date(2015, 12, 14), items='sausage,
frozen fish, house keeping products')
Row(Member_number='4990', Date=datetime.date(2015, 12, 14), items='tropical
fruit, specialty chocolate')
Row(Member_number='1248', Date=datetime.date(2015, 12, 15), items='frankfurter,
whole milk')
Row(Member_number='1632', Date=datetime.date(2015, 12, 15), items='onions,
rolls/buns')
Row(Member_number='1729', Date=datetime.date(2015, 12, 15), items='beef, pet
Row(Member number='1961', Date=datetime.date(2015, 12, 15), items='brown bread,
rolls/buns')
Row(Member_number='2054', Date=datetime.date(2015, 12, 15), items='butter,
citrus fruit, margarine, soda, whole milk, roll products ')
Row(Member number='2061', Date=datetime.date(2015, 12, 15), items='sausage,
sparkling wine')
Row(Member number='2332', Date=datetime.date(2015, 12, 15), items='tropical
```

```
fruit, root vegetables, rolls/buns')
Row(Member_number='2358', Date=datetime.date(2015, 12, 15), items='waffles,
chicken, hard cheese, dishes')
Row(Member_number='2392', Date=datetime.date(2015, 12, 15), items='soda,
butter')
Row(Member_number='2513', Date=datetime.date(2015, 12, 15), items='margarine,
detergent, yogurt, zwieback')
Row(Member_number='2727', Date=datetime.date(2015, 12, 15), items='whole milk,
whipped/sour cream')
Row(Member_number='3050', Date=datetime.date(2015, 12, 15), items='hard cheese,
other vegetables, whole milk, zwieback')
Row(Member number='3341', Date=datetime.date(2015, 12, 15), items='chicken,
hamburger meat, shopping bags')
Row(Member_number='3417', Date=datetime.date(2015, 12, 15), items='pastry,
tropical fruit, sugar, sauces, bottled water, sliced cheese')
Row(Member_number='3588', Date=datetime.date(2015, 12, 15), items='citrus fruit,
berries')
Row(Member_number='4184', Date=datetime.date(2015, 12, 15), items='yogurt,
beverages')
Row(Member number='4601', Date=datetime.date(2015, 12, 15), items='cat food,
other vegetables')
Row(Member_number='4607', Date=datetime.date(2015, 12, 15), items='ice cream,
margarine, sliced cheese, pastry')
Row(Member_number='4748', Date=datetime.date(2015, 12, 15), items='soda')
Row(Member_number='1037', Date=datetime.date(2015, 12, 16), items='frankfurter,
yogurt, canned beer')
Row(Member number='1208', Date=datetime.date(2015, 12, 16), items='tropical
fruit, butter milk')
Row(Member number='1360', Date=datetime.date(2015, 12, 16), items='turkey, ham,
whole milk, citrus fruit, pastry, soda')
Row(Member_number='1444', Date=datetime.date(2015, 12, 16), items='rolls/buns,
other vegetables')
Row(Member_number='2044', Date=datetime.date(2015, 12, 16), items='meat, semi-
finished bread')
Row(Member number='2048', Date=datetime.date(2015, 12, 16), items='pork, sugar')
Row(Member_number='2221', Date=datetime.date(2015, 12, 16), items='other
vegetables, shopping bags')
Row(Member_number='2285', Date=datetime.date(2015, 12, 16), items='canned beer,
tropical fruit')
Row(Member_number='2287', Date=datetime.date(2015, 12, 16), items='UHT-milk,
tropical fruit')
Row(Member number='2590', Date=datetime.date(2015, 12, 16), items='whipped/sour
cream, pot plants')
Row(Member_number='2600', Date=datetime.date(2015, 12, 16), items='pet care,
other vegetables')
Row(Member_number='2656', Date=datetime.date(2015, 12, 16), items='beef, bottled
beer')
Row(Member_number='2757', Date=datetime.date(2015, 12, 16), items='citrus fruit,
```

```
whipped/sour cream, onions, other vegetables, butter')
Row(Member_number='3168', Date=datetime.date(2015, 12, 16), items='root
vegetables, ice cream')
Row(Member_number='3453', Date=datetime.date(2015, 12, 16), items='chewing gum,
frozen vegetables')
Row(Member_number='3654', Date=datetime.date(2015, 12, 16), items='frankfurter,
bottled water')
Row(Member_number='4192', Date=datetime.date(2015, 12, 16), items='yogurt,
chicken, UHT-milk, bottled water')
Row(Member_number='4495', Date=datetime.date(2015, 12, 16), items='sausage,
beef')
Row(Member number='4618', Date=datetime.date(2015, 12, 16), items='frankfurter,
sliced cheese, butter')
Row(Member_number='4722', Date=datetime.date(2015, 12, 16), items='whole milk,
bottled water')
Row(Member number='1430', Date=datetime.date(2015, 12, 17), items='frankfurter,
other vegetables')
Row(Member number='1475', Date=datetime.date(2015, 12, 17), items='frankfurter,
canned beer')
Row(Member number='1609', Date=datetime.date(2015, 12, 17), items='rolls/buns,
soda, chocolate')
Row(Member number='1651', Date=datetime.date(2015, 12, 17), items='tropical
fruit, whole milk')
Row(Member_number='2315', Date=datetime.date(2015, 12, 17), items='chicken, roll
products ')
Row(Member number='2344', Date=datetime.date(2015, 12, 17), items='ice cream,
yogurt')
Row(Member_number='2345', Date=datetime.date(2015, 12, 17), items='bottled beer,
whole milk')
Row(Member_number='3101', Date=datetime.date(2015, 12, 17), items='sausage,
pork, soda, salt')
Row(Member_number='3454', Date=datetime.date(2015, 12, 17), items='frankfurter,
other vegetables')
Row(Member_number='3584', Date=datetime.date(2015, 12, 17), items='other
vegetables, whole milk')
Row(Member_number='3595', Date=datetime.date(2015, 12, 17), items='coffee, whole
Row(Member_number='3694', Date=datetime.date(2015, 12, 17), items='cat food,
rolls/buns')
Row(Member_number='3719', Date=datetime.date(2015, 12, 17), items='canned beer,
rolls/buns, other vegetables, brown bread, butter milk, whole milk')
Row(Member_number='3774', Date=datetime.date(2015, 12, 17), items='whole milk,
Row(Member_number='3818', Date=datetime.date(2015, 12, 17), items='turkey, whole
Row(Member number='4042', Date=datetime.date(2015, 12, 17), items='frankfurter,
soda')
Row(Member_number='4323', Date=datetime.date(2015, 12, 17), items='pot plants,
```

```
domestic eggs')
Row(Member_number='4389', Date=datetime.date(2015, 12, 17), items='misc.
beverages, liquor')
Row(Member_number='4678', Date=datetime.date(2015, 12, 17), items='meat, whole
milk, shopping bags')
Row(Member_number='4841', Date=datetime.date(2015, 12, 17), items='canned beer,
misc. beverages, yogurt, rolls/buns')
Row(Member_number='4922', Date=datetime.date(2015, 12, 17), items='packaged
fruit/vegetables, butter')
Row(Member_number='1807', Date=datetime.date(2015, 12, 18), items='frankfurter,
other vegetables')
Row(Member_number='1819', Date=datetime.date(2015, 12, 18), items='root
vegetables, berries')
Row(Member number='2221', Date=datetime.date(2015, 12, 18), items='soda, pork')
Row(Member_number='2255', Date=datetime.date(2015, 12, 18), items='pip fruit,
cake bar')
Row(Member_number='2460', Date=datetime.date(2015, 12, 18), items='whole milk,
butter')
Row(Member_number='2490', Date=datetime.date(2015, 12, 18), items='sausage, pip
fruit')
Row(Member_number='2762', Date=datetime.date(2015, 12, 18), items='dessert,
beef')
Row(Member_number='2822', Date=datetime.date(2015, 12, 18), items='salty snack,
shopping bags')
Row(Member_number='3031', Date=datetime.date(2015, 12, 18), items='pip fruit,
fruit/vegetable juice, whipped/sour cream, soda')
Row(Member_number='3232', Date=datetime.date(2015, 12, 18), items='yogurt, other
vegetables, white wine, frozen vegetables')
Row(Member_number='3668', Date=datetime.date(2015, 12, 18), items='root
vegetables')
Row(Member number='3816', Date=datetime.date(2015, 12, 18), items='canned beer,
fruit/vegetable juice')
Row(Member_number='3910', Date=datetime.date(2015, 12, 18), items='liver loaf,
rolls/buns, other vegetables, packaged fruit/vegetables, flower (seeds),
shopping bags')
Row(Member_number='4006', Date=datetime.date(2015, 12, 18), items='coffee,
butter, whipped/sour cream, other vegetables')
Row(Member_number='4217', Date=datetime.date(2015, 12, 18), items='frozen
vegetables, yogurt, bottled beer')
Row(Member_number='4459', Date=datetime.date(2015, 12, 18), items='bottled
water, beverages')
Row(Member number='4627', Date=datetime.date(2015, 12, 18), items='canned beer,
Row(Member_number='1384', Date=datetime.date(2015, 12, 19), items='other
vegetables, domestic eggs')
Row(Member number='2010', Date=datetime.date(2015, 12, 19), items='yogurt, root
vegetables, waffles')
Row(Member number='2070', Date=datetime.date(2015, 12, 19), items='baby
```

```
cosmetics, bottled water')
Row(Member_number='2293', Date=datetime.date(2015, 12, 19), items='tropical
fruit, pip fruit')
Row(Member_number='2401', Date=datetime.date(2015, 12, 19), items='root
vegetables, red/blush wine')
Row(Member_number='2829', Date=datetime.date(2015, 12, 19), items='beef,
frankfurter, chewing gum, margarine, detergent')
Row(Member_number='2960', Date=datetime.date(2015, 12, 19), items='whole milk,
tropical fruit, other vegetables, yogurt, domestic eggs')
Row(Member_number='3019', Date=datetime.date(2015, 12, 19), items='butter milk,
soda, rolls/buns')
Row(Member_number='4232', Date=datetime.date(2015, 12, 19), items='whole milk,
Instant food products, pip fruit, canned beer')
Row(Member_number='4235', Date=datetime.date(2015, 12, 19), items='grapes,
berries, soda, condensed milk, waffles, nut snack')
Row(Member_number='4503', Date=datetime.date(2015, 12, 19), items='tropical
fruit, whipped/sour cream, specialty chocolate')
Row(Member_number='4839', Date=datetime.date(2015, 12, 19), items='whole milk,
shopping bags')
Row (Member number='1647', Date=datetime.date(2015, 12, 20), items='yogurt,
specialty cheese')
Row(Member number='1741', Date=datetime.date(2015, 12, 20), items='sausage,
napkins, curd')
Row(Member_number='1788', Date=datetime.date(2015, 12, 20), items='dessert,
berries, mayonnaise')
Row(Member_number='2028', Date=datetime.date(2015, 12, 20), items='coffee, root
vegetables, bottled beer')
Row(Member_number='2047', Date=datetime.date(2015, 12, 20), items='pip fruit,
frozen vegetables, bottled water')
Row(Member_number='2074', Date=datetime.date(2015, 12, 20), items='bottled
water, UHT-milk')
Row(Member_number='2101', Date=datetime.date(2015, 12, 20), items='sausage,
frozen vegetables, onions, canned beer')
Row(Member_number='2178', Date=datetime.date(2015, 12, 20), items='frankfurter,
female sanitary products')
Row(Member_number='2315', Date=datetime.date(2015, 12, 20), items='turkey, other
vegetables')
Row(Member_number='2841', Date=datetime.date(2015, 12, 20), items='finished
products, domestic eggs')
Row(Member_number='2860', Date=datetime.date(2015, 12, 20), items='root
vegetables, flower (seeds)')
Row(Member_number='2871', Date=datetime.date(2015, 12, 20), items='hamburger
meat, root vegetables')
Row(Member number='2888', Date=datetime.date(2015, 12, 20), items='pip fruit,
other vegetables')
Row(Member_number='3601', Date=datetime.date(2015, 12, 20), items='rolls/buns,
other vegetables')
Row(Member number='3712', Date=datetime.date(2015, 12, 20), items='sausage,
```

```
whole milk, jam, yogurt')
Row(Member_number='3900', Date=datetime.date(2015, 12, 20), items='tropical
fruit, sausage')
Row(Member_number='4301', Date=datetime.date(2015, 12, 20), items='canned fruit,
detergent')
Row(Member_number='4412', Date=datetime.date(2015, 12, 20), items='sausage,
napkins')
Row(Member_number='4537', Date=datetime.date(2015, 12, 20), items='other
vegetables, whipped/sour cream')
Row(Member_number='4817', Date=datetime.date(2015, 12, 20), items='rolls/buns,
dishes')
Row(Member number='4851', Date=datetime.date(2015, 12, 20), items='sausage,
coffee, pip fruit, tropical fruit')
Row(Member number='4988', Date=datetime.date(2015, 12, 20), items='pork, long
life bakery product')
Row(Member_number='1122', Date=datetime.date(2015, 12, 21), items='bottled
water, citrus fruit')
Row(Member_number='1397', Date=datetime.date(2015, 12, 21), items='UHT-milk,
whipped/sour cream')
Row(Member number='1461', Date=datetime.date(2015, 12, 21), items='bottled
water, soda, margarine, candy')
Row(Member_number='1785', Date=datetime.date(2015, 12, 21), items='sausage,
bottled water')
Row(Member_number='2453', Date=datetime.date(2015, 12, 21), items='yogurt,
bottled beer')
Row(Member number='3391', Date=datetime.date(2015, 12, 21), items='frankfurter,
coffee')
Row(Member_number='3440', Date=datetime.date(2015, 12, 21), items='citrus fruit,
pork, pip fruit, yogurt, brown bread, male cosmetics')
Row(Member_number='3488', Date=datetime.date(2015, 12, 21), items='rolls/buns,
other vegetables')
Row(Member_number='4251', Date=datetime.date(2015, 12, 21), items='soda, root
vegetables')
Row(Member_number='4343', Date=datetime.date(2015, 12, 21), items='frozen
vegetables, brown bread, rolls/buns')
Row(Member_number='4512', Date=datetime.date(2015, 12, 21), items='bottled
water, beef')
Row(Member_number='1624', Date=datetime.date(2015, 12, 22), items='red/blush
wine, berries')
Row(Member_number='2011', Date=datetime.date(2015, 12, 22), items='soda, other
vegetables')
Row(Member number='2229', Date=datetime.date(2015, 12, 22), items='sausage,
misc. beverages')
Row(Member number='2489', Date=datetime.date(2015, 12, 22), items='whipped/sour
cream, beverages')
Row(Member number='2817', Date=datetime.date(2015, 12, 22), items='pork, male
cosmetics, pastry, chewing gum, brandy')
Row(Member_number='2951', Date=datetime.date(2015, 12, 22), items='curd,
```

```
domestic eggs')
Row(Member_number='3214', Date=datetime.date(2015, 12, 22), items='beverages,
root vegetables, frozen meals')
Row(Member_number='3637', Date=datetime.date(2015, 12, 22), items='root
vegetables, soft cheese')
Row(Member_number='3687', Date=datetime.date(2015, 12, 22), items='finished
products, other vegetables, misc. beverages, coffee, rolls/buns')
Row(Member_number='4030', Date=datetime.date(2015, 12, 22), items='pip fruit,
berries, other vegetables, bottled water')
Row(Member_number='4045', Date=datetime.date(2015, 12, 22), items='bottled
water, whole milk')
Row(Member_number='4162', Date=datetime.date(2015, 12, 22), items='red/blush
wine, bottled beer, yogurt, pip fruit, mustard')
Row(Member_number='1757', Date=datetime.date(2015, 12, 23), items='root
vegetables, other vegetables')
Row(Member_number='2011', Date=datetime.date(2015, 12, 23), items='UHT-milk,
candles')
Row(Member_number='2035', Date=datetime.date(2015, 12, 23), items='other
vegetables, sausage, beef, whole milk, prosecco, ice cream, waffles')
Row(Member_number='2234', Date=datetime.date(2015, 12, 23), items='pork, whole
milk, waffles, sugar')
Row(Member number='2550', Date=datetime.date(2015, 12, 23), items='chicken,
whipped/sour cream')
Row(Member_number='2555', Date=datetime.date(2015, 12, 23), items='whole milk,
liver loaf, yogurt, fruit/vegetable juice')
Row(Member number='2677', Date=datetime.date(2015, 12, 23), items='sausage,
whole milk, root vegetables, soft cheese')
Row(Member number='2867', Date=datetime.date(2015, 12, 23), items='chicken,
bottled water')
Row(Member_number='3111', Date=datetime.date(2015, 12, 23), items='pork, white
bread, waffles')
Row(Member_number='3120', Date=datetime.date(2015, 12, 23), items='other
vegetables, berries, whipped/sour cream')
Row(Member_number='3210', Date=datetime.date(2015, 12, 23), items='herbs,
tropical fruit, whole milk')
Row(Member_number='3286', Date=datetime.date(2015, 12, 23), items='finished
products, yogurt')
Row(Member_number='3486', Date=datetime.date(2015, 12, 23), items='pip fruit,
root vegetables, spread cheese')
Row(Member_number='3679', Date=datetime.date(2015, 12, 23), items='pork, other
vegetables, curd, domestic eggs')
Row(Member_number='3803', Date=datetime.date(2015, 12, 23), items='pot plants,
citrus fruit, whipped/sour cream')
Row(Member number='4003', Date=datetime.date(2015, 12, 23), items='pork, citrus
fruit')
Row(Member_number='4007', Date=datetime.date(2015, 12, 23), items='citrus fruit,
white bread')
Row(Member number='4416', Date=datetime.date(2015, 12, 23), items='finished
```

```
products, whole milk')
Row(Member_number='4419', Date=datetime.date(2015, 12, 23), items='other
vegetables, citrus fruit')
Row(Member_number='4436', Date=datetime.date(2015, 12, 23), items='other
vegetables, hygiene articles')
Row(Member_number='4454', Date=datetime.date(2015, 12, 23), items='oil, bottled
Row(Member_number='4470', Date=datetime.date(2015, 12, 23), items='onions,
whipped/sour cream, red/blush wine')
Row(Member_number='4573', Date=datetime.date(2015, 12, 23), items='sausage,
rolls/buns')
Row(Member number='4874', Date=datetime.date(2015, 12, 23), items='napkins,
dessert')
Row(Member number='4894', Date=datetime.date(2015, 12, 23), items='canned beer,
liquor, onions, chocolate')
Row(Member_number='1463', Date=datetime.date(2015, 12, 24), items='sausage, root
vegetables')
Row(Member number='2234', Date=datetime.date(2015, 12, 24), items='frankfurter,
liquor (appetizer), red/blush wine')
Row(Member_number='2301', Date=datetime.date(2015, 12, 24), items='organic
sausage, bottled water')
Row(Member number='3001', Date=datetime.date(2015, 12, 24), items='whole milk,
chicken')
Row(Member number='3092', Date=datetime.date(2015, 12, 24), items='sausage,
packaged fruit/vegetables')
Row(Member number='3147', Date=datetime.date(2015, 12, 24), items='tropical
fruit, vinegar, sauces')
Row(Member_number='3199', Date=datetime.date(2015, 12, 24), items='citrus fruit,
berries')
Row(Member_number='3312', Date=datetime.date(2015, 12, 24), items='curd, brown
bread')
Row(Member_number='3373', Date=datetime.date(2015, 12, 24), items='pip fruit,
other vegetables')
Row(Member_number='3450', Date=datetime.date(2015, 12, 24), items='pip fruit,
shopping bags, butter')
Row(Member_number='3467', Date=datetime.date(2015, 12, 24), items='newspapers,
sausage')
Row(Member_number='3899', Date=datetime.date(2015, 12, 24), items='bottled
water, UHT-milk')
Row(Member_number='3961', Date=datetime.date(2015, 12, 24), items='yogurt,
bottled water, processed cheese')
Row(Member_number='4118', Date=datetime.date(2015, 12, 24), items='meat, other
vegetables')
Row(Member number='4190', Date=datetime.date(2015, 12, 24), items='frankfurter,
root vegetables, fruit/vegetable juice, margarine')
Row(Member_number='4364', Date=datetime.date(2015, 12, 24), items='other
vegetables, mayonnaise, fruit/vegetable juice')
Row(Member_number='4626', Date=datetime.date(2015, 12, 24), items='meat,
```

```
rolls/buns, root vegetables')
Row(Member_number='4745', Date=datetime.date(2015, 12, 24), items='pastry,
shopping bags')
Row(Member_number='4800', Date=datetime.date(2015, 12, 24), items='frankfurter,
grapes, soda, seasonal products')
Row(Member_number='1118', Date=datetime.date(2015, 12, 25), items='whole milk,
hair spray, butter, pastry')
Row(Member_number='1313', Date=datetime.date(2015, 12, 25), items='other
vegetables, whipped/sour cream')
Row(Member_number='1337', Date=datetime.date(2015, 12, 25), items='other
vegetables, bottled water')
Row(Member number='1730', Date=datetime.date(2015, 12, 25), items='sausage,
semi-finished bread')
Row(Member_number='1885', Date=datetime.date(2015, 12, 25), items='turkey,
specialty bar')
Row(Member number='2548', Date=datetime.date(2015, 12, 25), items='curd, citrus
fruit')
Row(Member number='2825', Date=datetime.date(2015, 12, 25), items='soda,
whisky')
Row(Member number='3053', Date=datetime.date(2015, 12, 25), items='hamburger
meat, ice cream, chocolate, curd')
Row(Member number='3133', Date=datetime.date(2015, 12, 25), items='hamburger
meat, white wine')
Row(Member_number='3209', Date=datetime.date(2015, 12, 25), items='pastry, UHT-
milk')
Row(Member number='3321', Date=datetime.date(2015, 12, 25), items='sausage,
tropical fruit, bottled beer, fruit/vegetable juice')
Row(Member_number='3581', Date=datetime.date(2015, 12, 25), items='citrus fruit,
sliced cheese')
Row(Member number='3981', Date=datetime.date(2015, 12, 25), items='finished
products, spread cheese')
Row(Member_number='4303', Date=datetime.date(2015, 12, 25), items='pork, other
vegetables')
Row(Member_number='4340', Date=datetime.date(2015, 12, 25), items='butter milk,
candles, pot plants')
Row(Member_number='4656', Date=datetime.date(2015, 12, 25), items='photo/film,
root vegetables, newspapers')
Row(Member_number='1726', Date=datetime.date(2015, 12, 26), items='other
vegetables, pip fruit, napkins')
Row(Member_number='2463', Date=datetime.date(2015, 12, 26), items='whole milk,
soda')
Row(Member number='2652', Date=datetime.date(2015, 12, 26), items='chicken,
pastry, whole milk, pip fruit, soda, margarine, candy')
Row(Member number='2736', Date=datetime.date(2015, 12, 26), items='soda, butter
milk')
Row(Member_number='2834', Date=datetime.date(2015, 12, 26), items='beef, cream
cheese ')
Row(Member number='2922', Date=datetime.date(2015, 12, 26), items='pip fruit,
```

```
onions')
Row(Member_number='2974', Date=datetime.date(2015, 12, 26), items='herbs,
packaged fruit/vegetables')
Row(Member_number='3251', Date=datetime.date(2015, 12, 26), items='frankfurter,
rolls/buns')
Row(Member_number='3289', Date=datetime.date(2015, 12, 26), items='chicken,
Row(Member_number='4137', Date=datetime.date(2015, 12, 26), items='chicken,
Row(Member_number='4158', Date=datetime.date(2015, 12, 26), items='pip fruit,
hard cheese')
Row(Member number='4455', Date=datetime.date(2015, 12, 26), items='sausage,
Instant food products')
Row(Member number='4524', Date=datetime.date(2015, 12, 26), items='sliced
cheese, root vegetables, whipped/sour cream')
Row(Member_number='4985', Date=datetime.date(2015, 12, 26), items='root
vegetables, hard cheese')
Row(Member_number='4999', Date=datetime.date(2015, 12, 26), items='bottled
water, herbs')
Row(Member number='1155', Date=datetime.date(2015, 12, 27), items='frankfurter,
brandy')
Row(Member number='1324', Date=datetime.date(2015, 12, 27), items='misc.
beverages, frankfurter, salt, curd')
Row(Member_number='1693', Date=datetime.date(2015, 12, 27), items='onions,
pastry')
Row(Member_number='1763', Date=datetime.date(2015, 12, 27), items='pork, semi-
finished bread')
Row(Member_number='2061', Date=datetime.date(2015, 12, 27), items='tropical
fruit, long life bakery product, soda')
Row(Member_number='2433', Date=datetime.date(2015, 12, 27), items='frankfurter,
berries')
Row(Member_number='2465', Date=datetime.date(2015, 12, 27), items='other
vegetables, tropical fruit, pastry, citrus fruit, curd, soda, whole milk,
detergent, syrup')
Row(Member number='2506', Date=datetime.date(2015, 12, 27), items='beverages,
soda')
Row(Member number='2508', Date=datetime.date(2015, 12, 27), items='soda,
cleaner, cling film/bags')
Row(Member_number='2779', Date=datetime.date(2015, 12, 27), items='meat,
sausage, cake bar, root vegetables')
Row(Member_number='3006', Date=datetime.date(2015, 12, 27), items='chicken,
pork, frozen fish')
Row(Member_number='3042', Date=datetime.date(2015, 12, 27), items='whole milk,
root vegetables')
Row(Member_number='3271', Date=datetime.date(2015, 12, 27), items='sausage,
vogurt')
Row(Member_number='3438', Date=datetime.date(2015, 12, 27), items='grapes, pip
fruit, photo/film, root vegetables, cling film/bags')
```

```
Row(Member_number='3641', Date=datetime.date(2015, 12, 27), items='bottled
water, frozen meals')
Row(Member_number='4039', Date=datetime.date(2015, 12, 27), items='other
vegetables, condensed milk, bottled water, pastry, misc. beverages')
Row(Member number='4190', Date=datetime.date(2015, 12, 27), items='whole milk,
soda, newspapers')
Row(Member number='4222', Date=datetime.date(2015, 12, 27), items='cat food,
tropical fruit, whipped/sour cream')
Row(Member number='4755', Date=datetime.date(2015, 12, 27), items='canned beer,
rolls/buns, baking powder')
Row(Member_number='4804', Date=datetime.date(2015, 12, 27), items='tropical
fruit, other vegetables, butter, rolls/buns, coffee, pastry')
Row(Member_number='4997', Date=datetime.date(2015, 12, 27), items='tropical
fruit, white wine, curd, grapes')
Row(Member_number='1086', Date=datetime.date(2015, 12, 28), items='rolls/buns,
citrus fruit')
Row(Member number='1406', Date=datetime.date(2015, 12, 28), items='tropical
fruit, sausage, bottled beer, curd, misc. beverages, waffles, fruit/vegetable
juice, mayonnaise')
Row(Member number='1708', Date=datetime.date(2015, 12, 28), items='meat, citrus
fruit, chocolate, pastry, rolls/buns')
Row(Member_number='1997', Date=datetime.date(2015, 12, 28), items='cleaner, pip
fruit, pastry')
Row(Member_number='2222', Date=datetime.date(2015, 12, 28), items='whole milk,
sausage, pork, coffee')
Row(Member number='2295', Date=datetime.date(2015, 12, 28), items='frankfurter,
pip fruit')
Row(Member_number='2447', Date=datetime.date(2015, 12, 28), items='onions,
butter, soups')
Row(Member_number='2588', Date=datetime.date(2015, 12, 28), items='citrus fruit,
yogurt, coffee')
Row(Member_number='2764', Date=datetime.date(2015, 12, 28), items='UHT-milk,
tropical fruit')
Row(Member_number='2879', Date=datetime.date(2015, 12, 28), items='whole milk,
spread cheese')
Row(Member_number='2884', Date=datetime.date(2015, 12, 28), items='other
vegetables, dessert')
Row(Member_number='3063', Date=datetime.date(2015, 12, 28), items='processed
cheese, root vegetables')
Row(Member_number='3209', Date=datetime.date(2015, 12, 28), items='UHT-milk,
newspapers, salty snack')
Row(Member_number='3235', Date=datetime.date(2015, 12, 28), items='root
vegetables, ice cream, margarine')
Row(Member_number='3622', Date=datetime.date(2015, 12, 28), items='ham, bottled
beer')
Row(Member_number='4091', Date=datetime.date(2015, 12, 28), items='yogurt,
waffles, domestic eggs')
Row(Member_number='4159', Date=datetime.date(2015, 12, 28), items='bottled
```

```
water, tropical fruit')
Row(Member_number='4306', Date=datetime.date(2015, 12, 28), items='pip fruit,
coffee, whole milk, pastry, seasonal products')
Row(Member_number='4719', Date=datetime.date(2015, 12, 28), items='other
vegetables, whole milk')
Row(Member_number='1165', Date=datetime.date(2015, 12, 29), items='curd,
Row(Member_number='1218', Date=datetime.date(2015, 12, 29), items='tropical
fruit, meat, whole milk, candles')
Row(Member_number='1220', Date=datetime.date(2015, 12, 29), items='frankfurter,
ice cream')
Row(Member number='1358', Date=datetime.date(2015, 12, 29), items='domestic
eggs, vinegar, chocolate')
Row(Member_number='1444', Date=datetime.date(2015, 12, 29), items='meat, other
vegetables, margarine')
Row(Member_number='2309', Date=datetime.date(2015, 12, 29), items='whole milk,
frozen meals, shopping bags')
Row(Member_number='2448', Date=datetime.date(2015, 12, 29), items='rolls/buns,
pastry')
Row(Member number='2563', Date=datetime.date(2015, 12, 29), items='coffee, whole
milk, domestic eggs')
Row(Member_number='2825', Date=datetime.date(2015, 12, 29), items='sausage, root
vegetables')
Row(Member_number='2836', Date=datetime.date(2015, 12, 29), items='UHT-milk,
berries, shopping bags')
Row(Member_number='3118', Date=datetime.date(2015, 12, 29), items='whole milk,
soda, yogurt')
Row(Member_number='3306', Date=datetime.date(2015, 12, 29), items='frankfurter,
frozen vegetables')
Row(Member_number='3363', Date=datetime.date(2015, 12, 29), items='pork,
margarine')
Row(Member_number='3369', Date=datetime.date(2015, 12, 29), items='sausage,
other vegetables, rolls/buns')
Row(Member_number='3633', Date=datetime.date(2015, 12, 29), items='herbs,
pasta')
Row(Member_number='4010', Date=datetime.date(2015, 12, 29), items='pork,
rolls/buns, yogurt, brown bread')
Row(Member_number='4037', Date=datetime.date(2015, 12, 29), items='citrus fruit,
root vegetables')
Row(Member_number='4095', Date=datetime.date(2015, 12, 29), items='specialty
bar, other vegetables')
Row(Member number='4199', Date=datetime.date(2015, 12, 29), items='pip fruit,
UHT-milk')
Row(Member_number='4285', Date=datetime.date(2015, 12, 29), items='whole milk,
rolls/buns')
Row(Member number='4352', Date=datetime.date(2015, 12, 29), items='chocolate,
other vegetables')
Row(Member_number='4645', Date=datetime.date(2015, 12, 29), items='organic
```

```
Row(Member_number='1491', Date=datetime.date(2015, 12, 30), items='chicken,
    pork')
    Row(Member_number='1509', Date=datetime.date(2015, 12, 30), items='other
    vegetables, liquor (appetizer)')
    Row(Member_number='1527', Date=datetime.date(2015, 12, 30), items='domestic
    eggs, whole milk, bottled water')
    Row(Member_number='1769', Date=datetime.date(2015, 12, 30), items='rolls/buns,
    whole milk, onions')
    Row(Member_number='1963', Date=datetime.date(2015, 12, 30), items='yogurt,
    citrus fruit')
    Row(Member number='2140', Date=datetime.date(2015, 12, 30), items='sausage,
    other vegetables')
    Row(Member number='2507', Date=datetime.date(2015, 12, 30), items='frozen fish,
    Row(Member_number='2790', Date=datetime.date(2015, 12, 30), items='yogurt, other
    vegetables')
    Row(Member number='2810', Date=datetime.date(2015, 12, 30), items='frankfurter,
    pip fruit, whipped/sour cream')
    Row(Member number='2970', Date=datetime.date(2015, 12, 30), items='turkey, meat,
    rolls/buns')
    Row(Member number='2997', Date=datetime.date(2015, 12, 30), items='citrus fruit,
    shopping bags, tropical fruit, frankfurter, brown bread, rubbing alcohol,
    domestic eggs, whole milk')
    Row(Member_number='3191', Date=datetime.date(2015, 12, 30), items='pip fruit,
    chocolate marshmallow')
    Row(Member number='3562', Date=datetime.date(2015, 12, 30), items='pork,
    finished products, ice cream, shopping bags, rolls/buns')
    Row(Member_number='3579', Date=datetime.date(2015, 12, 30), items='other
    vegetables, pork, herbs, oil')
    Row(Member_number='3738', Date=datetime.date(2015, 12, 30), items='onions,
    Row(Member number='3971', Date=datetime.date(2015, 12, 30), items='brown bread,
    bottled beer')
    Row(Member number='4058', Date=datetime.date(2015, 12, 30), items='domestic
    eggs, cream cheese ')
    Row(Member number='4565', Date=datetime.date(2015, 12, 30), items='canned beer')
    Row(Member_number='4863', Date=datetime.date(2015, 12, 30), items='dessert,
    curd')
[]: output_folder = "Baskets"
     Baskets.coalesce(1).write.csv(output_folder, header=True, mode="overwrite")
[]: numBaskets = dict(Baskets.withColumn("Date", to_date("Date", "dd/MM/yyyy")) \
                                            .groupBy("Date") \
                                            .count() \
                                            .orderBy("Date") \
```

sausage, soda, rolls/buns')

```
.collect())
     #In kết quả
     print(len(numBaskets))
     print(list(numBaskets.values()))
    728
    [21, 29, 24, 28, 20, 13, 16, 19, 28, 23, 15, 18, 20, 24, 13, 18, 20, 22, 23, 24,
    24, 17, 30, 19, 18, 14, 22, 26, 16, 27, 28, 25, 20, 26, 28, 26, 26, 27, 30, 27,
    18, 21, 23, 21, 24, 21, 24, 25, 26, 18, 23, 21, 29, 18, 27, 21, 31, 25, 20, 21,
    25, 23, 34, 23, 27, 16, 22, 24, 19, 20, 27, 19, 18, 21, 20, 18, 19, 16, 20, 23,
    16, 16, 19, 21, 18, 23, 24, 18, 21, 19, 17, 28, 26, 23, 20, 20, 10, 22, 29, 19,
    16, 16, 34, 18, 26, 26, 27, 20, 26, 19, 22, 25, 23, 28, 24, 16, 20, 17, 16, 24,
    24, 16, 16, 21, 17, 18, 24, 22, 23, 19, 35, 17, 25, 21, 27, 13, 21, 24, 25, 24,
    16, 18, 25, 20, 27, 24, 22, 24, 30, 35, 29, 23, 20, 17, 19, 21, 31, 22, 16, 27,
    19, 13, 25, 30, 27, 17, 22, 15, 18, 26, 25, 22, 29, 18, 23, 23, 29, 24, 20, 12,
    20, 27, 16, 15, 21, 20, 29, 33, 23, 30, 22, 31, 12, 27, 21, 21, 17, 25, 23, 16,
    23, 27, 26, 24, 15, 18, 27, 21, 23, 20, 22, 25, 22, 19, 21, 23, 29, 23, 19, 16,
    18, 21, 21, 18, 21, 27, 18, 28, 26, 18, 21, 21, 23, 23, 17, 20, 22, 25, 20, 39,
    16, 17, 21, 21, 23, 13, 13, 27, 20, 24, 19, 20, 22, 19, 15, 20, 18, 12, 21, 16,
    18, 17, 22, 32, 16, 13, 29, 19, 26, 18, 24, 16, 23, 12, 17, 14, 14, 18, 24, 21,
    28, 22, 21, 30, 31, 28, 27, 16, 18, 21, 24, 24, 21, 17, 28, 23, 17, 22, 23, 36,
    18, 22, 31, 26, 26, 17, 24, 16, 19, 23, 18, 30, 23, 28, 21, 26, 28, 23, 24, 16,
    18, 19, 21, 27, 21, 30, 15, 20, 17, 25, 25, 20, 21, 20, 21, 19, 20, 27, 21, 20,
    29, 20, 20, 24, 15, 22, 25, 25, 22, 30, 22, 25, 28, 16, 18, 18, 28, 24, 25, 28,
    18, 16, 19, 20, 16, 20, 28, 29, 21, 14, 20, 23, 7, 17, 17, 22, 18, 22, 15, 19,
    18, 22, 17, 15, 34, 25, 19, 20, 25, 22, 27, 25, 15, 13, 27, 13, 11, 23, 16, 28,
    16, 19, 23, 17, 12, 15, 22, 14, 23, 22, 15, 19, 24, 13, 18, 14, 14, 26, 21, 20,
    25, 19, 20, 20, 25, 14, 19, 15, 10, 21, 23, 25, 24, 18, 23, 24, 20, 17, 9, 11,
    21, 20, 27, 18, 21, 17, 17, 17, 26, 16, 14, 21, 16, 15, 21, 13, 16, 20, 18, 13,
    22, 25, 21, 25, 25, 17, 19, 13, 18, 16, 13, 23, 21, 18, 20, 20, 12, 16, 17, 22,
    16, 22, 17, 28, 22, 23, 23, 14, 20, 19, 17, 14, 14, 14, 11, 20, 15, 20, 26, 25,
    22, 25, 24, 13, 20, 22, 15, 22, 12, 19, 22, 20, 21, 16, 15, 20, 19, 22, 16, 15,
    28, 16, 20, 17, 17, 21, 17, 23, 23, 21, 20, 18, 20, 29, 19, 25, 18, 21, 21, 21,
    12, 23, 24, 21, 15, 21, 17, 15, 22, 18, 14, 21, 25, 15, 21, 20, 12, 15, 16, 15,
    14, 18, 13, 23, 17, 25, 21, 22, 15, 19, 16, 20, 24, 17, 17, 24, 19, 17, 21, 21,
    27, 24, 25, 22, 24, 14, 22, 23, 25, 19, 29, 18, 22, 25, 18, 22, 32, 19, 18, 23,
    17, 21, 22, 23, 14, 19, 15, 20, 20, 18, 18, 16, 13, 13, 13, 19, 19, 26, 14, 21,
    16, 13, 15, 18, 14, 21, 19, 13, 23, 23, 20, 18, 17, 14, 22, 25, 27, 14, 27, 16,
    21, 21, 14, 22, 16, 21, 22, 22, 12, 15, 24, 21, 18, 20, 20, 19, 11, 18, 13, 21,
    15, 21, 21, 23, 18, 14, 11, 15, 24, 21, 16, 26, 27, 17, 13, 18, 17, 25, 20, 18,
    19, 18, 21, 18, 16, 19, 22, 18, 20, 21, 20, 23, 19, 17, 27, 24, 28, 19, 14, 26,
    14, 13, 17, 23, 18, 17, 13, 21, 18, 16, 13, 20, 19, 20, 21, 17, 12, 22, 11, 12,
    25, 19, 16, 15, 21, 19, 22, 19]
[]: numBaskets = pd.DataFrame.from_dict(numBaskets, orient='index',_
```

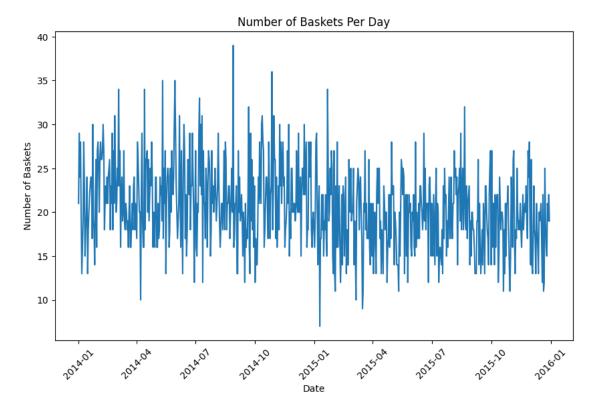
¬columns=['Count'])

print(numBaskets)

```
Count
2014-01-01
                21
                29
2014-01-02
2014-01-03
                24
2014-01-04
                28
2014-01-05
                20
2015-12-26
                15
2015-12-27
                21
                19
2015-12-28
2015-12-29
                22
2015-12-30
                19
```

[728 rows x 1 columns]

```
[]: plt.figure(figsize=(10, 6))
  plt.plot(numBaskets.index, numBaskets['Count'])
  plt.title("Number of Baskets Per Day")
  plt.xlabel("Date")
  plt.ylabel("Number of Baskets")
  plt.xticks(rotation=45)
  plt.show()
```



PCY

```
[]: class PCY:
       def __init__(self, file_path, s, c):
         Constructor method
         Parameters:
          file_path is the file path to csv file \n
          s is the minimum support \n
           c is the minimun confidence
         11 11 11
         self.df = sqlc.read.csv(file_path, header=True)
         self.s = s
         self.c = c
       def get_frequent_items(self, df_count):
         Get frequent items \n
         Hàm dùng để tìm các item phổ biến
         Parameters:
           df\_count is the number row of df \setminus n
           df_count là số lương dòng của df
         Returns:
           The frequent items in DataFrame \n
           Các item phổ biến dưới dang DataFrame
         items_df = self.df.withColumn("items", split(self.df["items"], ", "))
         items_df = items_df.select(explode("items").alias("item"))
         item_support_df = items_df.groupBy("item").count()
         item_support_df = item_support_df.withColumn("support",
                                                       col("count") / df count)
         frequent_items_df = item_support_df.filter(col("support") >= self.s)
         frequent_items_df = frequent_items_df.drop("count")
         return frequent_items_df
       def generate_frequent_itemsets(self, frequent_items_df, df_count):
         Generate frequent possible itemsets \n
         Hàm dùng để tao các itemset phổ biến
```

```
Parameters:
  frequent_items_df is the frequent items in DataFrame \n
  frequent_items_df là các item phố biến dưới dang DataFrame
Returns:
  The frequent itemsets in DataFrame \n
  (Các tập phổ biến dưới dạng DataFrame)
11 11 11
# Lấy ra cột items từ req 2
transactions_rdd = self.df.select("items").rdd.map(lambda row:
                                                    set(row[0].split(", ")))
# Tao ra các itemset có từ transactions
itemsets = transactions_rdd \
  .flatMap(lambda transaction: \
                        [itemset for r in range(2, len(transaction) + 1) \
                            for itemset in combinations(transaction, r)]) \
  .map(lambda itemset: (tuple(sorted(itemset)), 1)) \
  .reduceByKey(lambda a, b: a + b)
itemsets_df = itemsets.map(lambda x: (", ".join(x[0]), x[1]))\
                      .toDF(["itemset", "support"])
# Tinh toan support cho itemset
itemsets_df = itemsets_df.withColumn("support", col("support") / df_count)
# Hash function
num_buckets = 500 # Số lương bucket
hash_expr = expr(f"mod(hash(itemset), {num_buckets})")
# Hash các itemset
buckets_df = itemsets_df.withColumn("bucket", hash_expr)
buckets_df = buckets_df.rdd.map(lambda line: (line[2], line[0], line[1]))
buckets_df = buckets_df.toDF(["bucket", "itemset", "support"])
# Show bucket df
# buckets_df.show()
# Tinh tổng support cho mỗi bucket
buckets_count_df = buckets_df.groupBy("bucket") \
                      .agg(sum("support").alias("total_support"))
# Loc ra các bucket có support >= minimum support
buckets_df_filter = buckets_count_df.filter(col("total_support") >= self.s)
```

```
# Lấy các itemset từ các bucket đã loc
  itemsets_df_filter = buckets_df_filter\
        .join(broadcast(buckets_df),
              buckets_df_filter.bucket == buckets_df.bucket) \
        .select("itemset", "support")
  # Loc các itemset >= minimum support
 itemsets_df_filter = itemsets_df_filter.filter(col("support") >= self.s)
 return itemsets_df_filter
def find_association_rules(self, frequent_itemsets_df, frequent_items_df):
 Find association rules \n
 Hàm tìm quy luật kết hợp
 Parameters:
    frequent_itemsets_df is the frequent itemsets in DataFrame \n
    (frequent_itemsets_df là các tập phổ biến dưới dạng DataFrame)
    frequent_items_df is the frequent items in DataFrame \n
    (frequent_items_df là các item phổ biến dưới dạng DataFrame)
 Returns:
    The association rules in DataFrame \n
    (Các quy luật kết hợp dưới dang DataFrame)
  # Thực hiện gộp các frequent item vào chung
 all_frequent_itemsets_df = frequent_itemsets_df.union(frequent_items_df)
  # Đổi tên trước khi join
 left_frequent_itemsets_df = all_frequent_itemsets_df \
                      .withColumnRenamed("itemset", "left_itemset") \
                      .withColumnRenamed("support", "left_support")
 right_frequent_itemsets_df = all_frequent_itemsets_df \
                      .withColumnRenamed("itemset", "right_itemset") \
                      .withColumnRenamed("support", "right_support")
 # Côt itemset ban đầu là string, đổi sang list
 left_frequent_itemsets_df = left_frequent_itemsets_df \
              .withColumn("left itemset", \
                  split(left_frequent_itemsets_df["left_itemset"], ", "))
 right_frequent_itemsets_df = right_frequent_itemsets_df \
              .withColumn("right_itemset", \
                  split(right_frequent_itemsets_df["right_itemset"], ", "))
  # Loc các itemset bên trái có ít phần tử hơn bên phải
```

```
# Bên trái là subset của bên phải
  combination itemsets df = left frequent itemsets df \
          .join(broadcast(right_frequent_itemsets_df), \
              size(left_frequent_itemsets_df["left_itemset"]) < \</pre>
              size(right_frequent_itemsets_df["right_itemset"]))
  # Loc lần 2 để loại bỏ các itemset bên trái không phải là subset bên phải
  combination_itemsets_df = combination_itemsets_df.filter(
      size(array_except(combination_itemsets_df["left_itemset"], \
                        combination_itemsets_df["right_itemset"])) == 0)
  combination itemsets df = combination itemsets df.withColumn("confidence",\
                                  col("right_support") / col("left_support"))
  # Loc các association rule thỏa điều kiên
  combination_itemsets_df = combination_itemsets_df \
              .filter(col("confidence") >= self.c)
  # Loc để lấy consequent
  combination_itemsets_df = combination_itemsets_df \
              .withColumn("right_itemset", \
                    array_except(combination_itemsets_df["right_itemset"], \
                                 combination_itemsets_df["left_itemset"]))
  # Đổi tên các column lai
  association_rules_df = combination_itemsets_df \
              .select("left itemset", "right itemset", "confidence") \
              .withColumnRenamed("left_itemset", "antecedent") \
              .withColumnRenamed("right itemset", "consequent")
 return association_rules_df
def save_to_csv(self, save_df, name_save):
  if os.path.exists(f'{name_save}.csv'):
      subprocess.call(f"rm -r {name_save}.csv", shell=True)
  save_df.toPandas().to_csv(f"{name_save}.csv", index=False)
def run(self):
  # Lấy số lương dòng của df
 df_count = self.df.count()
  # Goi hàm để tìm frequent items
 frequent_items_df = self.get_frequent_items(df_count)
  # Goi hàm để tìm frequent itemsets
 frequent_itemsets_df = self.generate_frequent_itemsets(frequent_items_df, \
                                                          df_count)
```

```
# Tách itemset từ string thành list
itemsets_array_df = frequent_itemsets_df \
      .withColumn("itemset_array", \
                  split(frequent_itemsets_df["itemset"], ", "))
# Loc ra các cặp phổ biến từ itemsets
frequent_pairs_df = itemsets_array_df \
      .filter(size(itemsets_array_df["itemset_array"]) == 2) \
      .drop("itemset_array") \
      .withColumnRenamed("itemset", "pair")
# In ra man hinh
print(f"Có {frequent_pairs_df.count()} cặp phổ biến")
print("Danh sách các cặp phổ biến")
frequent_pairs_df.show(truncate=False)
# Goi hàm để tìm association rule
association_rules_df = self.find_association_rules(frequent_itemsets_df, \
                                                          frequent_items_df)
# In ra man hinh
print("Danh sách association rules")
association_rules_df.show(truncate=False)
# Luu file, chay song song 2 task luu file
with ThreadPoolExecutor() as executor:
  executor.submit(self.save_to_csv, frequent_pairs_df, \
                  "pcy_frequent_pairs")
  executor.submit(self.save_to_csv, association_rules_df, \
                  "pcy_association_rules")
```

Run PCY

```
Có 588 cặp phổ biến
Danh sách các cặp phổ biến
```

```
|frozen vegetables, tropical fruit|0.0010693042839002875|
|chocolate, citrus fruit
                                  |0.0010693042839002875|
|pork, tropical fruit
                                  |0.0015371249081066632|
|fruit/vegetable juice, pastry
                                  [0.0014702933903628951]
citrus fruit, tropical fruit
                                  0.0028737552629820224
|newspapers, whipped/sour cream
                                  [0.0015371249081066632]
|coffee, shopping bags
                                  |0.001403461872619127 |
lice cream, soda
                                  0.0012029673193878234
|domestic eggs, pastry
                                  [0.0013366303548753592]
|margarine, soda
                                  |0.0026064291920069507|
|curd, whole milk
                                  |0.004143554100113613 |
|canned beer, yogurt
                                  |0.0038762280291385416|
|napkins, tropical fruit
                                  |0.0012697988371315912|
|shopping bags, soda
                                  10.004410880171088686
|curd, margarine
                                  |0.0010693042839002875|
|brown bread, curd
                                  |0.0012029673193878234|
|candy, yogurt
                                  |0.0012029673193878234|
|citrus fruit, pip fruit
                                  |0.0014702933903628951|
```

only showing top 20 rows

Danh sách association rules

+	+	++
antecedent	consequent	confidence
+	+	++
[sausage, yogurt]	[whole milk]	0.2558139534883721
[rolls/buns, sausage]	[whole milk]	0.2125
[sausage, soda]	[whole milk]	0.17977528089887643
[sausage, whole milk]	[yogurt]	0.16417910447761194
[rolls/buns, yogurt]	[whole milk]	0.17094017094017094
[frozen fish]	[whole milk]	0.15686274509803924
[ham]	[whole milk]	0.16015624999999997
[detergent]	[whole milk]	0.1627906976744186
[semi-finished bread]	[whole milk]	0.176056338028169
[bottled beer]	[whole milk]	0.15781710914454278
+	+	++