Project – *Part 3*
Job Talk
INFO 5307: Knowledge Management Tools and Technologies

Venu Gopalan K T

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# Job Title: Senior Data Analyst

Job Description:

What you will do:

It's an exciting time to join Walmart Global Technology! We are looking for a seasoned Data Analyst who can turn data into information, information into insight and insight into business decisions. Data analyst responsibilities include conducting full lifecycle analysis to include requirements, activities, and design. Data analysts will develop analysis and reporting capabilities. They will monitor performance and quality control plans to identify improvements.

Project – Retail Industry

- **Title:** Customer Behavior (Patterns and Trends)

- **Aim:** To find a purchase pattern / trend in the Customer's behavior

- **Dataset:** OnlineRetail.xlsx
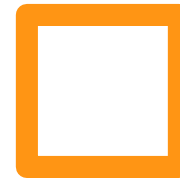
Working with OnlineRetail.xlsx

- Loading data and Changing data types

- Exploring and Dividing – based on Countries

- Countries used (For Plotting)
  - USA   - Japan   - Italy   - Unspecified
  - Spain   - France   - Canada

- Adding Map

- Summary

Loading Data and Changing Data Type

- Used R and Rstudio

- Changed data Type into *factor*

```
   InvoiceNo          StockCode          Description
Length:541909      Length:541909      Length:541909
Class :character   Class :character   Class :character
Mode  :character   Mode  :character   Mode  :character


    Quantity          InvoiceDate                     UnitPrice
Min.   :-80995.00   Min.   :2010-12-01 08:26:00.00   Min.   :-11062.06
1st Qu.:     1.00   1st Qu.:2011-03-28 11:34:00.00   1st Qu.:     1.25
Median :     3.00   Median :2011-07-19 17:17:00.00   Median :     2.08
Mean   :     9.55   Mean   :2011-07-04 13:34:57.16   Mean   :     4.61
3rd Qu.:    10.00   3rd Qu.:2011-10-19 11:27:00.00   3rd Qu.:     4.13
Max.   : 80995.00   Max.   :2011-12-09 12:50:00.00   Max.   : 38970.00


   CustomerID        Country
Min.   :12346     Length:541909
1st Qu.:13953     Class :character
Median :15152     Mode  :character
Mean   :15288
3rd Qu.:16791
Max.   :18287
NA's   :135080
```

```
   InvoiceNo          StockCode                                   Description
573585 :   1114    85123A :   2313    WHITE HANGING HEART T-LIGHT HOLDER:  2369
581219 :    749    22423  :   2203    REGENCY CAKESTAND 3 TIER         :  2200
581492 :    731    85099B :   2159    JUMBO BAG RED RETROSPOT          :  2159
580729 :    721    47566  :   1727    PARTY BUNTING                    :  1727
558475 :    705    20725  :   1639    LUNCH BAG RED RETROSPOT          :  1638
579777 :    687    84879  :   1502    (Other)                          :530362
(Other):537202    (Other):530366    NA's                             :  1454
    Quantity          InvoiceDate                     UnitPrice
Min.   :-80995.00   Min.   :2010-12-01 08:26:00.00   Min.   :-11062.06
1st Qu.:     1.00   1st Qu.:2011-03-28 11:34:00.00   1st Qu.:     1.25
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3rd Qu.:    10.00   3rd Qu.:2011-10-19 11:27:00.00   3rd Qu.:     4.13
Max.   : 80995.00   Max.   :2011-12-09 12:50:00.00   Max.   : 38970.00

   CustomerID           Country
17841  :   7983    United Kingdom:495478
14911  :   5903    Germany       :  9495
14096  :   5128    France        :  8557
12748  :   4642    EIRE          :  8196
14606  :   2782    Spain         :  2533
(Other):380391    Netherlands   :  2371
NA's   :135080    (Other)       : 15279
```
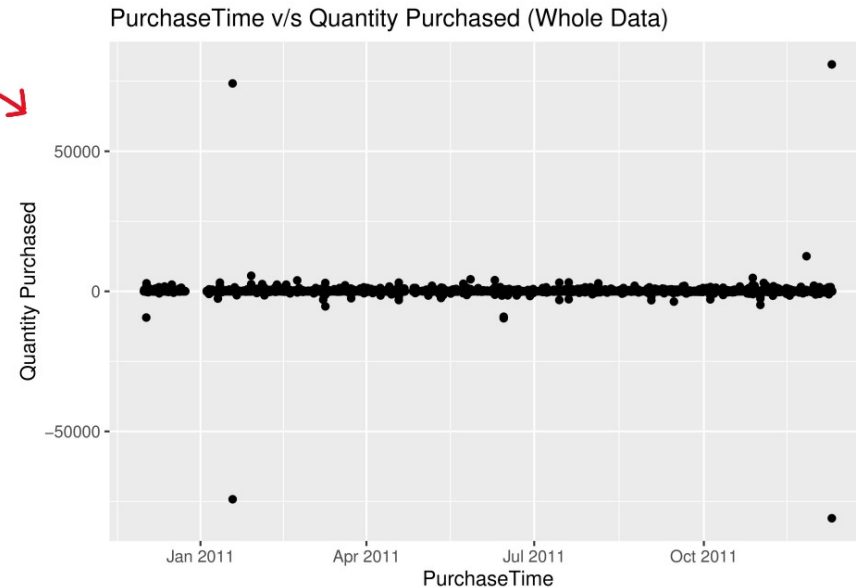
Exploring and Dividing Data – based on Countries

- Plotting whole data – Unreadable

- Getting Country - specific insights

- More accurate and precise results

PurchaseTime v/s Quantity Purchased (Whole Data)
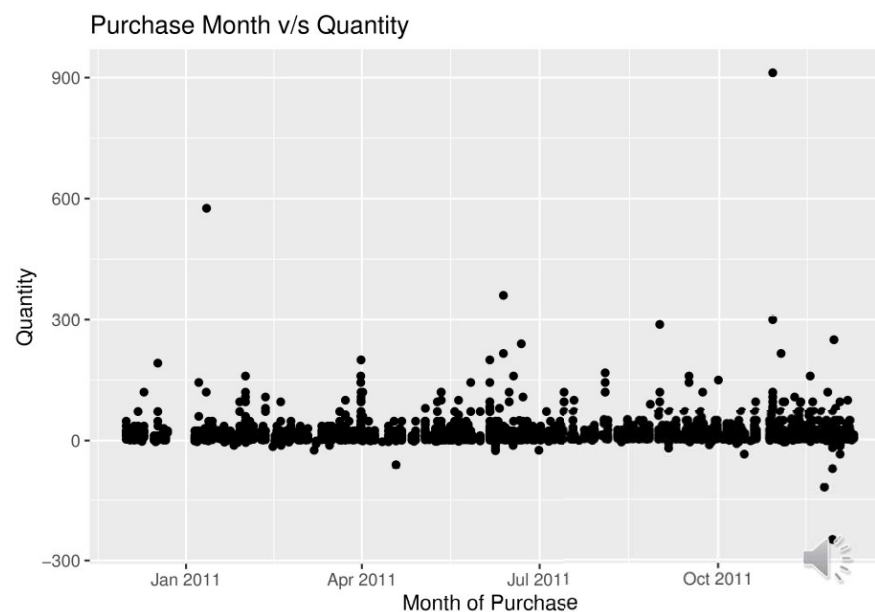
Plotting – Based on Countries

USA

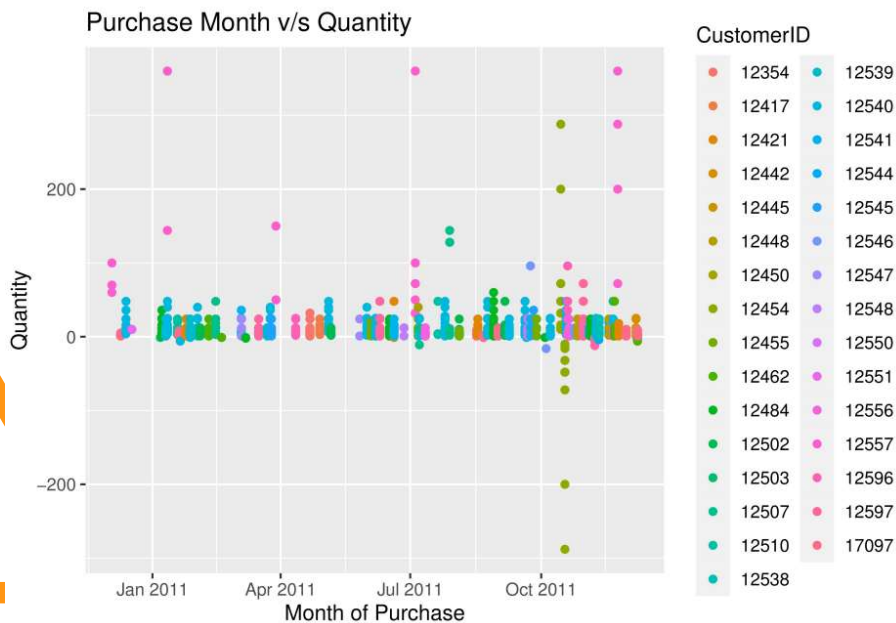- 291 Entries
- 4 Customers and 7 Invoices

France

- 8557 Entries
- 88 Customers

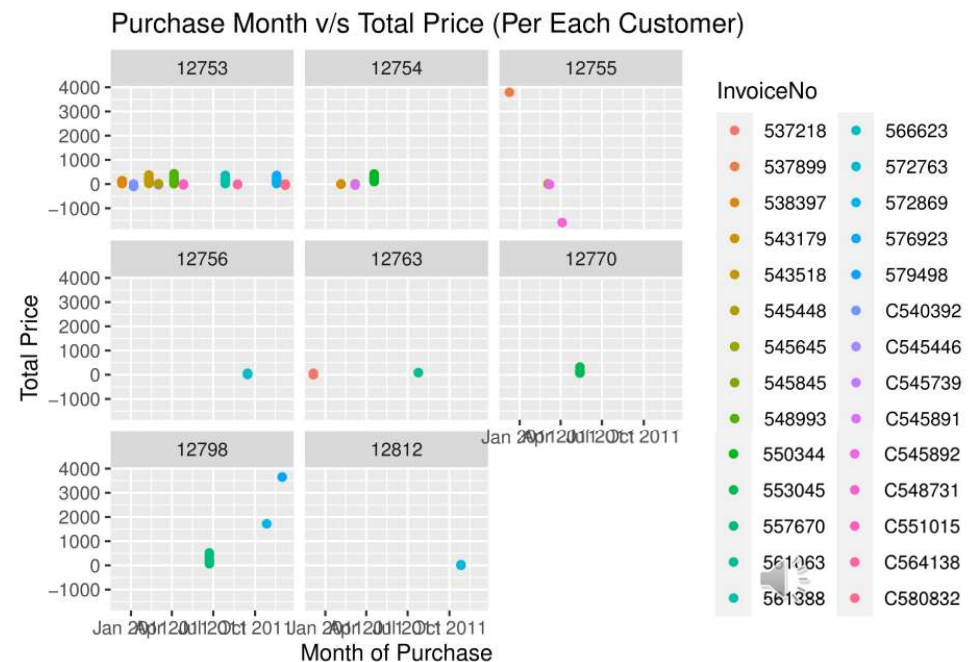# Plotting – Based on Countries (cont.)

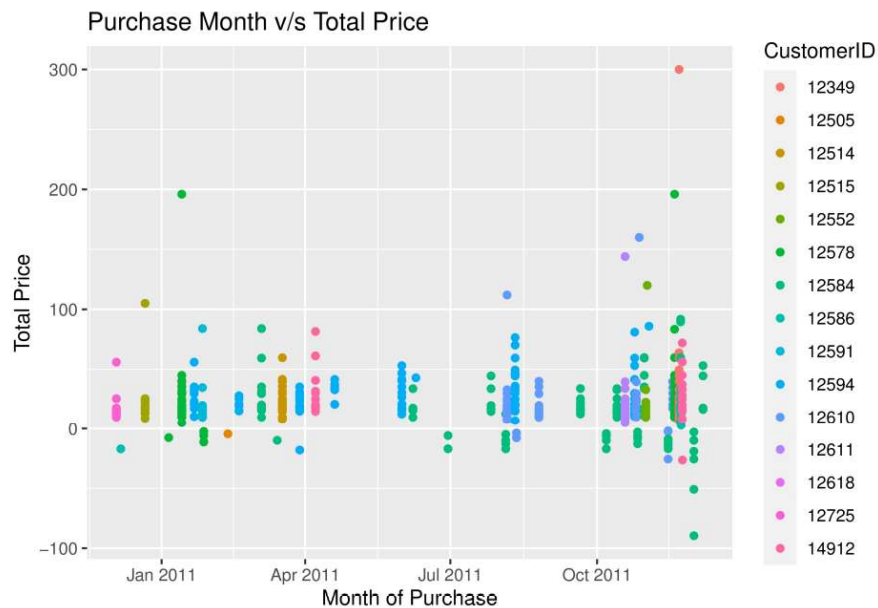## Spain

- 2533 Entries
- 31 Customers and 105 Invoices

Japan

- 358 Entries
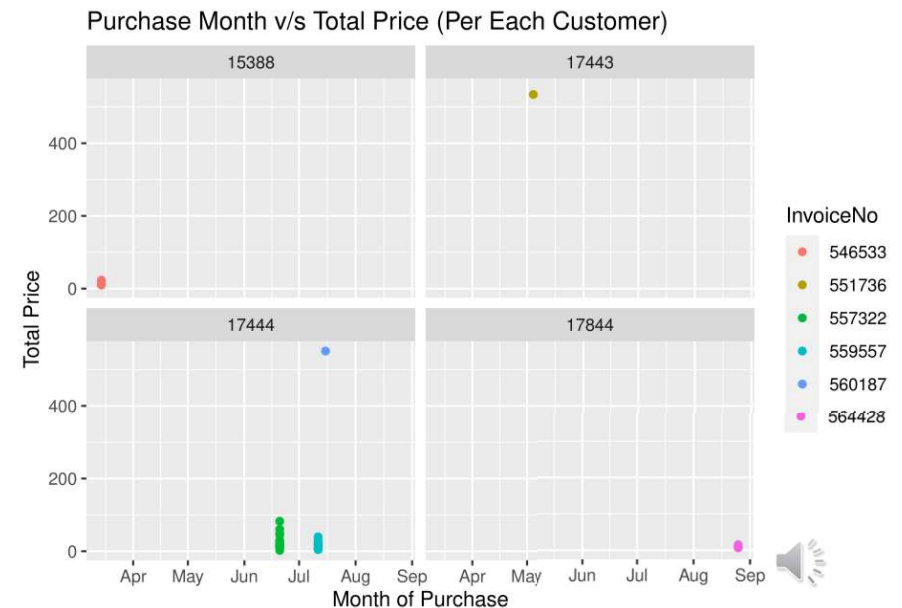- 8 Customers and 28 Invoices

Plotting – Based on Countries (cont.)

Italy

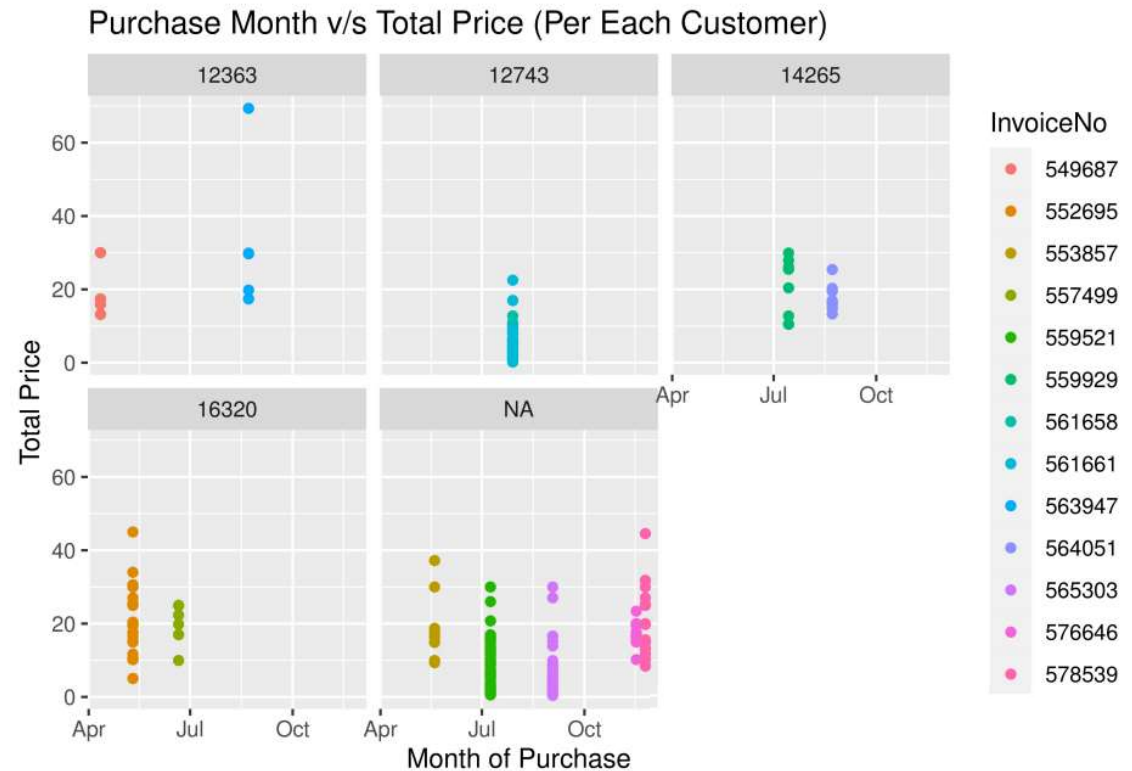- 803 Entries
- 15 Customers and 55 Invoices

Canada

- 151 Entries
- 4 Customers and 6 Invoices

Plotting – Based on Countries (cont.)

Unspecified

- 446 Entries
- 4+ Customers and 13 Invoices
- Not NA / NULL

Purchase Month v/s Total Price (Per Each Customer)

Adding Maps

- Easy to read
- Grasp information quickly
- Room for Improvement

Text vs Map

Australia	Austria	Bahrain	Belgium
1259	401	19	2069
Brazil	Canada	Channel Islands	Cyprus
32	151	758	622
Czech Republic	Denmark	EIRE	European Community
30	389	8196	61
Finland	France	Germany	Greece
695	8557	9495	146
Hong Kong	Iceland	Israel	Italy
288	182	297	803
Japan	Lebanon	Lithuania	Malta
358	45	35	127
Netherlands	Norway	Poland	Portugal
2371	1086	341	1519
RSA	Saudi Arabia	Singapore	Spain
58	10	229	2533
Sweden	Switzerland	United Arab Emirates	United Kingdom
462	2002	68	495478
Unspecified	USA		
446	291		
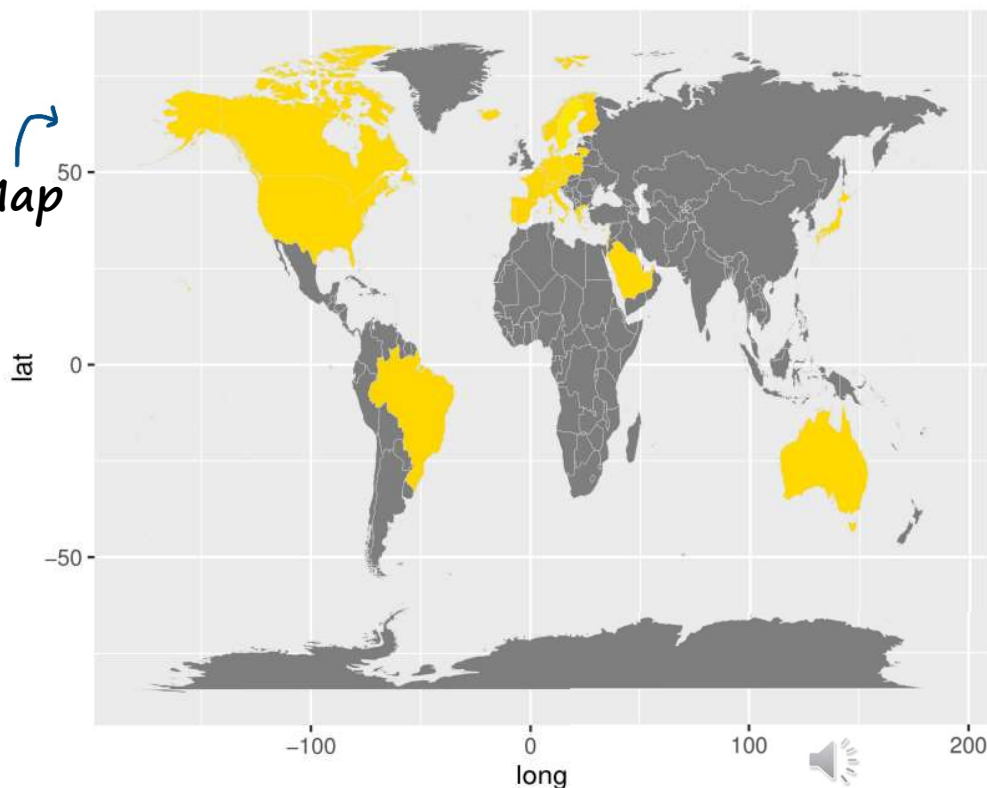
Summary

- Whole data
- Jan – No Purchase
- Year End Purchases

Purchase Frequency of All Countries
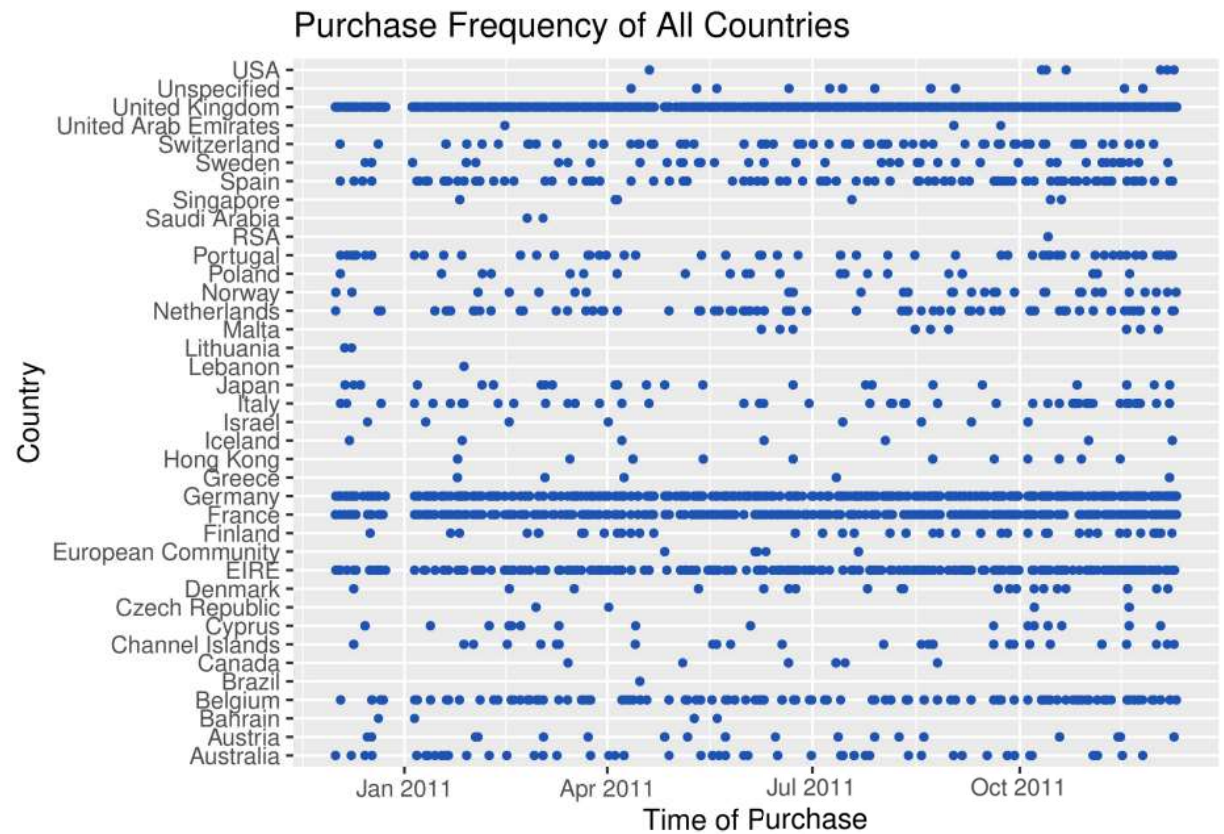
Thank you

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