

1 MySQL Assignment | Knowledge Discovery

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In the age of the internet, it may seem paperback books may seem as useful as flip phones. As dozens of travel websites and apps vie for your business, it is surprising that the travel guide still exists as a useful medium to put together a seamless holiday itinerary. I decided to investigate just how useful travel guides are to the users of Seattle Public Library. This report serves as an example to demonstrate how to explore the usage of the Lonely Planet guide books in the Seattle Public Library(SPL) database.

When I plan a journey, the first thing I do is take the Lonely Planet guide out of the library for that destination. I wanted to identify which lonely planet destinations are most popular in the Seattle Public library, which travel guides increase in popularity over the years from 2005-2017, and which become more popular in certain months, thus giving an indication of which destinations are become popular during the year.

SEARCH TERMS : Identify Key Concepts

The first step is to identify key statistical information on the subject of Lonely Planet books by looking up the spl.org site. The search returns 704 items. The Lonely Planet has a callNumber ranging from 912-920. The search identifies all books including the words Lonely Planet in the title, not only the travel guides associated with individual countries.

START THE SEARCH: Start with a general search

Once we have this preliminary information we can then proceed to the MySQL database. The first step is to get an idea of how many versions of the topic are in the SPL database, in what media types, and the circulation summary of each version. The SQL query:

SELECT

```
    bibNumber, itemType, title, COUNT(bibNumber) AS Counts
```

FROM

```
    spl_2016.inraw
```

WHERE

```
    title like '%Lonely Planet%'
```

GROUP BY bibNumber, itemType, title

ORDER BY Counts DESC

returns the following table (figure 1). This shows the most popular Lonely Planet books in the Seattle Library captures the hottest trends, destinations, journeys and experiences, rather than itineraries at explicit geographic locations. Perhaps members of the Seattle library use travel guides as a means to inspire travel, rather than a exploratory tool for a particular destination of interest.

	bibNumber	itemType	title	Counts
	2335382	acb	Lonely Planet bluelist 618 things to do places to ...	407
	2474097	acb	Lonely Planet blue list the best in travel 2008	356
	2623535	acb	Lonely Planets 1000 ultimate experiences	296
	2403353	acb	Lonely Planet blue list the best in travel 2007	285
	2547039	acb	Lonely Planets best in travel 2009 850 trends d...	248
	2317914	acb	Lonely Planet guide to experimental travel	243
	2391414	acb	Lonely Planet guide to the middle of nowhere	190
	2701945	acb	Lonely Planets best in travel 2011 the best tren...	176

Figure 1: Count of check-ins from all books which feature the words 'Lonely Planet' in the title

ADVANCED SEARCH

However, I am interested to see the popularity of travel guides associated with destinations. In general, Lonely Planet guides such as "Lonely Planet guide to the middle of nowhere" are ambiguous and do not inform me of the locations that users of the Seattle Public Library are interested in.

I want to only select the Lonely Planet guides associated with countries to understand travel behaviour of visitors to Seattle Library. The following query selects all the Lonely planet guide explicitly associated with destinations.

SELECT

```
bibNumber, itemType, title, COUNT(bibNumber) AS Counts
```

FROM

```
spl_2016.inraw
```

WHERE

```
bibNumber = '3216254'
OR bibNumber = '3216252'
OR bibNumber = '3216250'
OR bibNumber = '3216249'
OR bibNumber = '3125798'
OR bibNumber = '2984743'
OR bibNumber = '2984739'
OR bibNumber = '2250074'
OR bibNumber = '2183698'
OR bibNumber = '2116309'
OR bibNumber = '2115413'
OR bibNumber = '2110802'
OR bibNumber = '2080162'
OR bibNumber = '1752959'
OR bibNumber = '1701711'
```

```
GROUP BY bibNumber , itemType, title
```

ORDER BY Counts DESC

	bibNumber	itemType	title	Counts
	2080162	acb	Turkey	783
	2116309	acb	Praque	182
	2250074	acb	Lonelv Planet road trio California Highwav 1	172
	2115413	acb	Austria a Lonelv Planet travel survival kit	149
	2183698	acb	New Orleans	135
	2984739	acb	Lonelv Planet Greek islands	100
	2984743	acb	Lonelv Planet Southern Italv	87
	2110802	acb	Lonelv Planet Southern Italv	55

Figure 2: Table showing the count of check-ins for each location-specific Lonely Planet travel guide.

After selecting the country specific travel guides I can see that the Turkey travel guide has an outstanding number of checkouts compared to the other location-specific travel guides (figure 2). At this point it is important to investigate whether there may be a discrepancy between the number of times the book has been taken out and the number of times the book has been returned. Using the following commands:

```
SELECT
```

```
    bibNumber, itemType, itemNumber, title, callNumber, COUNT(bibNumber)
AS Counts
```

```
FROM
```

```
    spl_2016.inraw
```

```
WHERE
```

```
    bibNumber = '3216254'
    OR bibNumber = '3216252'
    OR bibNumber = '3216250'
    OR bibNumber = '3216249'
    OR bibNumber = '3125798'
    OR bibNumber = '2984743'
    OR bibNumber = '2984739'
    OR bibNumber = '2250074'
    OR bibNumber = '2183698'
    OR bibNumber = '2116309'
    OR bibNumber = '2115413'
    OR bibNumber = '2110802'
    OR bibNumber = '2080162'
    OR bibNumber = '1752959'
    OR bibNumber = '1701711'
```

```
GROUP BY bibNumber , itemType, itemNumber, title, callNumber
```

```
ORDER BY Counts DESC
```

```
and:
```

```
SELECT
```

```
    bibNumber, itemType, itemNumber, title, callNumber, COUNT(bibNumber)  
AS Counts
```

```
FROM
```

```
    spl_2016.outraw
```

```
WHERE
```

```
    bibNumber = '3216254'
```

```
        OR bibNumber = '3216252'
```

```
        OR bibNumber = '3216250'
```

```
        OR bibNumber = '3216249'
```

```
        OR bibNumber = '3125798'
```

```
        OR bibNumber = '2984743'
```

```
        OR bibNumber = '2984739'
```

```
        OR bibNumber = '2250074'
```

```
        OR bibNumber = '2183698'
```

```
        OR bibNumber = '2116309'
```

```
        OR bibNumber = '2115413'
```

```
        OR bibNumber = '2110802'
```

```
        OR bibNumber = '2080162'
```

```
        OR bibNumber = '1752959'
```

```
        OR bibNumber = '1701711'
```

```
GROUP BY bibNumber , itemType, itemNumber, title, callNumber
```

```
ORDER BY Counts DESC
```

I can see that the number of check-ins is far greater than the number of check-outs for all Lonely Planet travel guides (figure 3). This is because one record in outraw could be mapped to several records inraw because when book is returned to a library building different from the initial building where the book was loaned. For example, the Lonely Planet road trip California Highway 1 book has been checked in 124 times yet only checked out 79 times.

	bibNumber	itemType	itemNumber	title	callNumber	Counts
	2250074	acb	770427	Lonely Planet road trip California Highway 1	917.94045 L847	124
	2080162	acb	2317786	Turkey	915.6104 T8474	56
	2115413	acb	2318997	Austria a Lonely Planet travel survival kit	914.3604 Au792	46
	1752959	acb	601495	South Africa Lesotho Swaziland a Lonely Planet travel atlas	912.68 MURRAY 1997	45
	2183698	acb	2609281	New Orleans	917.6335 N42057	44
	2080162	acb	3522255	Turkey	915.6104 T8474	44
	2080162	acb	2872279	Turkey	915.6104 T8474	42

	bibNumber	itemType	itemNumber	title	callNumber	Counts
	2250074	acb	770427	Lonely Planet road trip California Highway 1	917.94045 L847	79
	2115413	acb	2318997	Austria a Lonely Planet travel survival kit	914.3604 Au792	43
	2116309	acb	2317731	Prague	914.3712 P8843	39
	2984739	acb	5115738	Lonely Planet Greek islands	914.9504 M6158L 2014	39
	2984743	acb	5115817	Lonely Planet Southern Italy	914.57049 B6414L 2014	38
	2080162	acb	2317786	Turkey	915.6104 T8474	36
	2080162	acb	3522250	Turkey	915.6104 T8474	32
	2183698	acb	2609281	New Orleans	917.6335 N42057	30
	2984739	acb	5115738	Lonely Planet Greek islands	914.9504 M6158L 2014	29

Figure 3: a. A table showing the count of check-outs made per copy of each location-specific Lonely Planet travel guide. b. A table showing the count of check-outs made per copy.

To investigate the discrepancy between the check-ins and check-outs of the California Highway 1 Lonely Planet guide, using the following query:

```
SELECT
    *
FROM
    spl_2016.inraw
WHERE
    itemNumber = '770427'
```

I can select the itemNumber, I can identify duplicated check-out times that illustrate the multiple check-ins to different branches of the Seattle Public Library a single check-in (figure 4). This tells me that these are not errors in the data.

id	itemNumber	bibNumber	cout	cin	collcode	itemtype	barcode
52931843	770427	2250074	2011-07-23 13:03:00	2011-08-15 11:29:00	canf	acb	0010048913023
52927128	770427	2250074	2011-07-23 13:03:00	2011-08-14 21:26:00	canf	acb	0010048913023
52900947	770427	2250074	2011-07-23 13:03:00	2011-08-13 15:26:00	canf	acb	0010048913023

Figure 4: table showing a duplicated check-out time for every check-in time when the copy of the book passes through different branches of the Seattle Public Library.

I am interested in the popularity of different location-specific travel guides from 2005 to 2017 and the variation in popularity within the months of each year. Based on the assumption that users of the Seattle Public Library check-out a travel guide before they plan to travel to that location, I am able to investigate which destinations are popular during which months and whether they increase or decrease in popularity over the 12 years. Using the query recorded in the appendix, the data reveal some interesting trends (figure 5). Firstly, where there is a constant line of zeros for the book, this illustrates the time before the book was obtained by the library.

bibNumber	title	callNumber	Counts	2006-1	2006-2	2006-3	2006-4	20
2080162	Turkev	915.6104 T8474	531	3	5	5	3	3
2116309	Praoae	914.3712 P8843	172	3	2	6	1	1
2984739	Lonelv Planet Greek islands	914.9504 M6158L 2014	147	0	0	0	0	0
2115413	Austria a Lonelv Planet travel survival kit	914.3604 Au792	130	4	2	1	6	2
2984743	Lonelv Planet Southern Italv	914.57049 B6414L 2014	112	0	0	0	0	0
2250074	Lonelv Planet road trip California Highwav 1	917.94045 L847	105	2	3	2	4	0

Figure 5: A table showing the count of check outs made per month each year for all location-specific Lonely Planet travel guides.

This led me to look into the monthly performance of each individual location specific Lonely Planet guide book. I made a visualisation based on the data. Figure 6 shows an assigned unique colour spectrum to the count of bibNumbers recorded each month of each year. The title of the travel guide is listed on the right-hand side, and the count of library check-outs is ordered ascendingly. The visualisation shows that the Turkey travel guide is the most popular, however the library appears to remove all copies of the travel guide past October 2013. The visualisation highlights when copies of Lonely Planet travel guides are made available, and shows how quickly they become popular, and whether they retain their popularity for a long duration of time. For example, as soon as the Lonely Planet ‘Turkey’ travel guide was no longer available, the ‘Turkey a Lonely Planet travel survival kit’ increased in popularity.



Figure 6: A heatmap showing the number of checkouts per month from 2005-2017.

The second visualisation illustrates the average number of check-outs per month from 2005-2016 (figure 7). I removed Lonely Planet ‘Turkey’ from the data because the total number of checkouts for this book skewed the colour palette (Appendix. Figure 8). This is because the Turkish Lonely Planet guide has 99 copies – far more than all other stocked lonely Planet travel guides. Figure 7 shows slightly more checkouts are made during the summer months (June-August), when people use the guide books during their holiday. Unfortunately, this visualisation can only illustrate limited annual trends because many of the travel guides are unavailable for the entire time the Seattle Public Library dataset contains. This smooths out any trends that may be more visible with more selective temporal data.

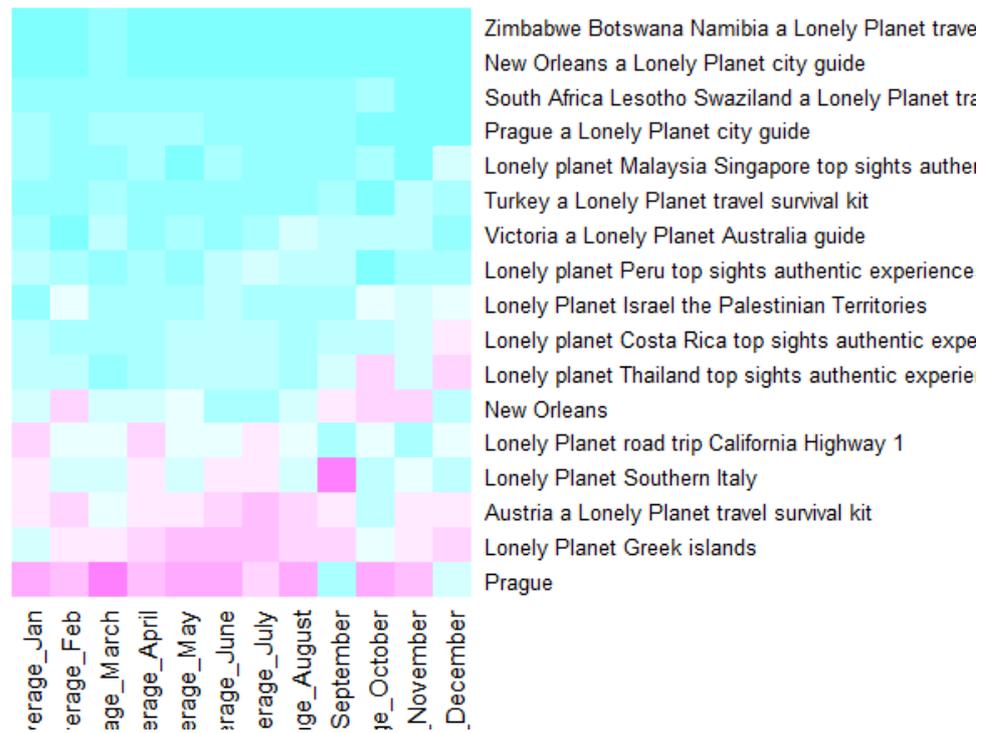


Figure 7: A heatmap of the average number of checkouts per month over the period of 2005-2017.

Appendix

1.

SELECT

```
bibNumber, title, callNumber,  
COUNT(bibNumber) AS Counts,  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 1) THEN 1  
ELSE 0  
END) AS '2006-1',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 2) THEN 1  
ELSE 0  
END) AS '2006-2',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 3) THEN 1  
ELSE 0  
END) AS '2006-3',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 4) THEN 1  
ELSE 0  
END) AS '2006-4',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 5) THEN 1  
ELSE 0  
END) AS '2006-5',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 6) THEN 1  
ELSE 0  
END) AS '2006-6',  
SUM(CASE  
WHEN (YEAR(cout) = 2006 and month(cout) = 7) THEN 1  
ELSE 0
```

```
END) AS '2006-7',
SUM(CASE
WHEN (YEAR(cout) = 2006 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2006-8',
SUM(CASE
WHEN (YEAR(cout) = 2006 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2006-9',
SUM(CASE
WHEN (YEAR(cout) = 2006 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2006-10',
SUM(CASE
WHEN (YEAR(cout) = 2006 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2006-11',
SUM(CASE
WHEN (YEAR(cout) = 2006 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2006-12',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2007-1',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2007-2',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2007-3',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2007-4',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2007-5',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2007-6',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2007-7',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2007-8',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2007-9',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2007-10',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2007-11',
SUM(CASE
WHEN (YEAR(cout) = 2007 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2007-12',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2008-1',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2008-2',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 3) THEN 1
ELSE 0
END) AS '2008-3',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2008-4',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2008-5',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2008-6',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 7) THEN 1
ELSE 0
```

```
END) AS '2008-7',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2008-8',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2008-9',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2008-10',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2008-11',
SUM(CASE
WHEN (YEAR(cout) = 2008 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2008-12',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2009-1',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2009-2',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2009-3',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2009-4',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2009-5',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2009-6',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2009-7',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2009-8',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2009-9',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2009-10',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2009-11',
SUM(CASE
WHEN (YEAR(cout) = 2009 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2009-12',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2010-1',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2010-2',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 3) THEN 1
ELSE 0
END) AS '2010-3',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2010-4',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2010-5',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2010-6',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 7) THEN 1
ELSE 0
```

```
END) AS '2010-7',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2010-8',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2010-9',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2010-10',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2010-11',
SUM(CASE
WHEN (YEAR(cout) = 2010 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2010-12',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2011-1',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2011-2',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2011-3',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2011-4',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2011-5',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2011-6',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2011-7',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2011-8',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2011-9',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2011-10',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2011-11',
SUM(CASE
WHEN (YEAR(cout) = 2011 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2011-12',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2012-1',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2012-2',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 3) THEN 1
ELSE 0
END) AS '2012-3',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2012-4',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2012-5',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2012-6',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 7) THEN 1
ELSE 0
```

```
END) AS '2012-7',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2012-8',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2012-9',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2012-10',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2012-11',
SUM(CASE
WHEN (YEAR(cout) = 2012 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2012-12',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2013-1',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2013-2',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2013-3',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2013-4',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2013-5',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2013-6',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2013-7',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2013-8',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2013-9',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2013-10',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2013-11',
SUM(CASE
WHEN (YEAR(cout) = 2013 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2013-12',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2014-1',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2014-2',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 3) THEN 1
ELSE 0
END) AS '2014-3',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2014-4',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2014-5',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2014-6',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 7) THEN 1
ELSE 0
```

```
END) AS '2014-7',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2014-8',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2014-9',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2014-10',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2014-11',
SUM(CASE
WHEN (YEAR(cout) = 2014 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2014-12',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2015-1',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2015-2',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2015-3',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2015-4',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2015-5',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2015-6',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2015-7',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2015-8',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2015-9',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2015-10',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2015-11',
SUM(CASE
WHEN (YEAR(cout) = 2015 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2015-12',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2016-1',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2016-2',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 3) THEN 1
ELSE 0
END) AS '2016-3',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2016-4',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2016-5',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2016-6',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 7) THEN 1
ELSE 0
```

```
END) AS '2016-7',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2016-8',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2016-9',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2016-10',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 11) THEN 1
ELSE 0
END) AS '2016-11',
SUM(CASE
WHEN (YEAR(cout) = 2016 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2016-12',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 1) THEN 1
ELSE 0
END) AS '2017-1',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 2) THEN 1
ELSE 0
END) AS '2017-2',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 3) THEN 1
ELSE 0
```

```
END) AS '2017-3',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 4) THEN 1
ELSE 0
END) AS '2017-4',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 5) THEN 1
ELSE 0
END) AS '2017-5',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 6) THEN 1
ELSE 0
END) AS '2017-6',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 7) THEN 1
ELSE 0
END) AS '2017-7',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 8) THEN 1
ELSE 0
END) AS '2017-8',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 9) THEN 1
ELSE 0
END) AS '2017-9',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 10) THEN 1
ELSE 0
END) AS '2017-10',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 11) THEN 1
ELSE 0
```

```
END) AS '2017-11',
SUM(CASE
WHEN (YEAR(cout) = 2017 and month(cout) = 12) THEN 1
ELSE 0
END) AS '2017-12'
FROM
spl_2016.outraw
WHERE
    bibNumber = '3216254'
    OR bibNumber = '3216252'
    OR bibNumber = '3216250'
    OR bibNumber = '3216249'
    OR bibNumber = '3125798'
    OR bibNumber = '2984743'
    OR bibNumber = '2984739'
    OR bibNumber = '2250074'
    OR bibNumber = '2183698'
    OR bibNumber = '2116309'
    OR bibNumber = '2115413'
    OR bibNumber = '2110802'
    OR bibNumber = '2080162'
    OR bibNumber = '1752959'
    OR bibNumber = '1701711'
GROUP BY bibNumber, title, callNumber
ORDER BY Counts DESC
```

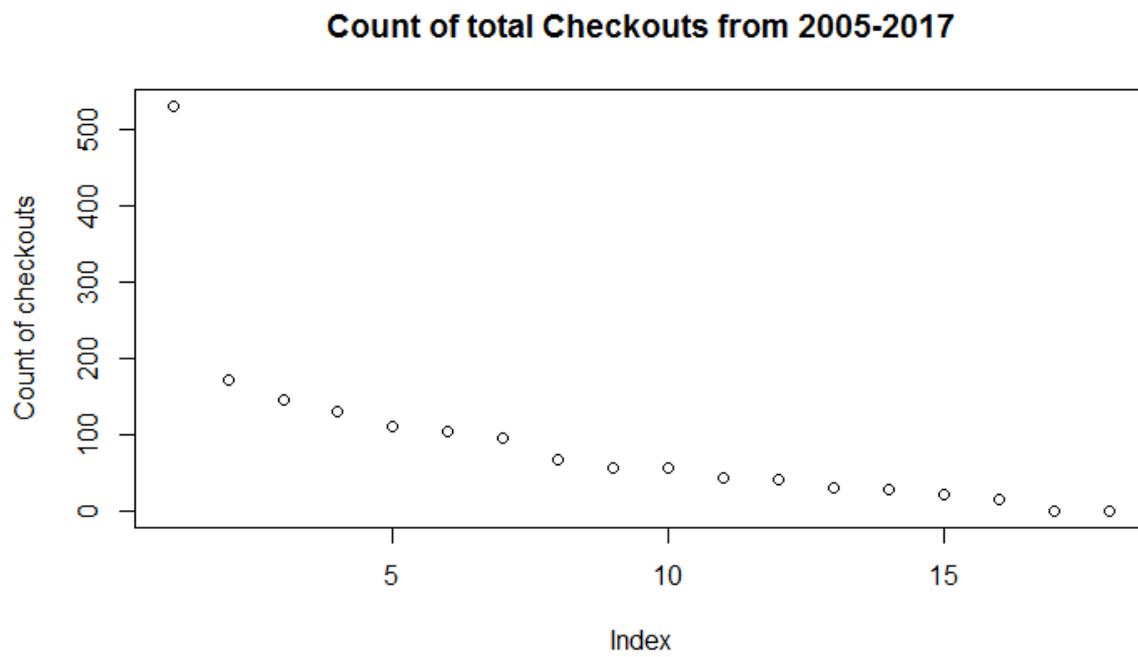


Figure 8: Scatter Plot showing the total number of check outs from the Location specific Lonely Planet travel guides. The result of 531 is the 'Turkey' Lonely Planet travel guide and is excluded from the heatmap visualisation because of its unusually large checkout result.