

Marco Alexandre Lázaro

São Paulo, 2016, November 20th

Data Scientist - TOTVS Labs Challenge

To parse the JSON file, I've used the SQL Server 2016 function OPENJSON (see file SC01 - Json Parse.sql)

Here an extract of the result:

	valorTotal	comp	fone	xBarro	xGr	xMun	xPas	uf	xFant	dhEmi	natOp	infCpl	vDesc	vFrete	vOutro	vProdIcms	vSeg	vTotTrib	vbc	vbcot	vcolins
1	24.9	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:01:54.000	VENDA	Mesa 2	0	0	0	24.9	0	2.53	0	0	0
2	24.9	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:01:54.000	VENDA	Mesa 2	0	0	0	24.9	0	2.53	0	0	0
3	92.53	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:03:52.000	VENDA	Mesa 1	0	0	0	92.55	0	7.71	0	0	0
4	92.53	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:03:52.000	VENDA	Mesa 1	0	0	0	92.55	0	7.71	0	0	0
5	57.86	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:16:40.000	VENDA	Mesa 5	0	0	0	57.87	0	2.43	0	0	0
6	57.86	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:16:40.000	VENDA	Mesa 5	0	0	0	57.87	0	2.43	0	0	0
7	34.97	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:17:50.000	VENDA	Mesa 3	0	0	0	34.98	0	1.47	0	0	0
8	46.23	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:18:35.000	VENDA	Mesa 4	0	0	0	46.23	0	1.94	0	0	0
9	32.76	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:20:00.000	VENDA	Mesa 6	0	0	0	32.76	0	3.29	0	0	0
10	32.76	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:20:00.000	VENDA	Mesa 6	0	0	0	32.76	0	3.29	0	0	0
11	57.11	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:22:16.000	VENDA	Mesa 7	0	0	0	57.11	0	5.79	0	0	0
12	57.11	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:22:16.000	VENDA	Mesa 7	0	0	0	57.11	0	5.79	0	0	0
13	57.11	01 234 567/0001-89	1-650-933-4902	NULL	650 Castro St. unit 210	Mountain View	United States	CA	TOTVS Labs	2016-01-05 12:22:16.000	VENDA	Mesa 7	0	0	0	57.11	0	5.79	0	0	0

See the file "JSON Parsed.xlsx"

Observing the fields "Table" and "Day of Week", we can obtain the average ticket per table per day of week; so if a customer comes at Tuesday and sits at Table 1, it probably that they expense about \$ 68.29.

Average of valorTotal		Column Labels					
Table		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mesa 1		50.89	68.29	68.74	64.51	58.15	57.84

Using the FORECAST function in Excel, we can obtain the forecast for the next week:

Current Week	
segunda-feira	12,076.14
terça-feira	19,869.12
quarta-feira	26,030.12
quinta-feira	12,872.85
sexta-feira	9,042.46
sábado	10,858.63
Next Week: Forecast	
segunda-feira	18,819.52
terça-feira	17,341.66
quarta-feira	15,863.81
quinta-feira	14,385.96
sexta-feira	12,908.11
sábado	11,430.26