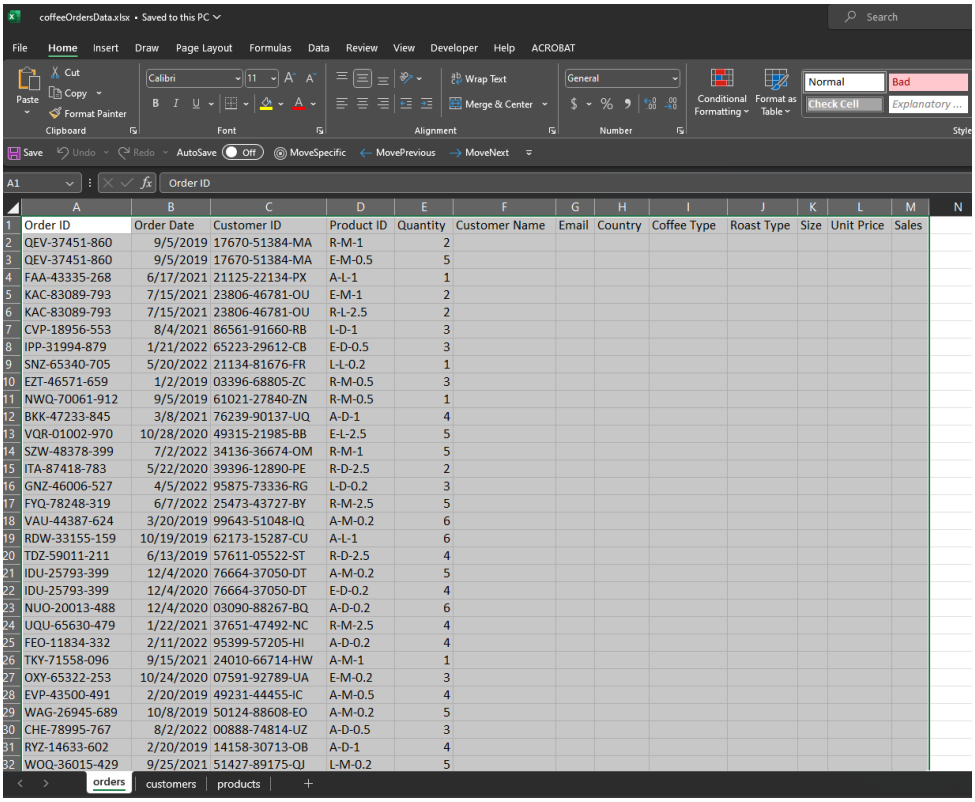
Excel Project – Creating a Dashboard in MS Excel:

Excel Spreadsheet Background: I watched a YouTube video to build an interactive dashboard in Excel and downloaded a spreadsheet from the Channel's GitHub website containing information about coffee orders, customers, and products. I have put the Channel's URL video and GitHub site on the last page for reference.

Objective: The goal of this project consisted of three parts:

- First to collect data from various worksheets using logical and lookup functions such as IF, XLOOKUP, INDEX and MATCH, and formatting the data as a table for multiple purposes.
- Secondly to insert Pivot Tables and charts on different worksheets and summarize data to find out the number of sales by date, country, and top 5 customers.
- Finally, paste the charts into a new Dashboard worksheet and analyze charts using slicers and timelines.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Order ID	Order Date	Customer ID	Product ID	Quantity	Customer Name	Email	Country	Coffee Type	Roast Type	Size	Unit Price	Sales	
2	QEV-37451-860	9/5/2019	17670-51384-MA	R-M-1	2									
3	QEV-37451-860	9/5/2019	17670-51384-MA	E-M-0.5	5									
4	FAA-43335-268	6/17/2021	21125-22134-PX	A-L-1	1									
5	KAC-83089-793	7/15/2021	23806-46781-OU	E-M-1	2									
6	KAC-83089-793	7/15/2021	23806-46781-OU	R-L-2.5	2									
7	CVP-18956-553	8/4/2021	86561-91660-RB	L-D-1	3									
8	IPP-31994-879	1/21/2022	65223-29612-CB	E-D-0.5	3									
9	SNZ-65340-705	5/20/2022	21134-81676-FR	L-L-0.2	1									
10	EZT-46571-659	1/2/2019	03396-68805-ZC	R-M-0.5	3									
11	NWQ-70061-912	9/5/2019	61021-27840-ZN	R-M-0.5	1									
12	BKK-47233-845	3/8/2021	76239-90137-UQ	A-D-1	4									
13	VQR-01002-970	10/28/2020	49315-21985-BB	E-L-2.5	5									
14	SZW-48378-399	7/2/2022	34136-36674-OM	R-M-1	5									
15	ITA-87418-783	5/22/2020	39396-12890-PE	R-D-2.5	2									
16	GNZ-46006-527	4/5/2022	95875-73336-RG	L-D-0.2	3									
17	FYQ-78248-319	6/7/2022	25473-43727-BY	R-M-2.5	5									
18	VAU-44387-624	3/20/2019	99643-51048-IQ	A-M-0.2	6									
19	RDW-33155-159	10/19/2019	62173-15287-CU	A-L-1	6									
20	TDZ-59011-211	6/13/2019	57611-05522-ST	R-D-2.5	4									
21	IDU-25793-399	12/4/2020	76664-37050-DT	A-M-0.2	5									
22	IDU-25793-399	12/4/2020	76664-37050-DT	E-D-0.2	4									
23	NUO-20013-488	12/4/2020	03090-88267-BQ	A-D-0.2	6									
24	UQU-65630-479	1/22/2021	37651-47492-NC	R-M-2.5	4									
25	FEO-11834-332	2/11/2022	95399-57205-HI	A-D-0.2	4									
26	TKY-71558-096	9/15/2021	24010-66714-HW	A-M-1	1									
27	OXY-65322-253	10/24/2020	07591-92789-UA	E-M-0.2	3									
28	EVP-43500-491	2/20/2019	49231-44455-IC	A-M-0.5	4									
29	WAG-26945-689	10/8/2019	50124-88608-EO	A-M-0.2	5									
30	CHE-78995-767	8/2/2022	00888-74814-UZ	A-D-0.5	3									
31	RYZ-14633-602	2/20/2019	14158-30713-OB	A-D-1	4									
32	WOQ-36015-429	9/25/2021	51427-89175-QJ	L-M-0.2	5									

	A	B	C	D	E	F	G	H	I
1	Customer ID	Customer Name	Email	Phone Number	Address Line 1	City	Country	Postcode	Loyalty Card
2	17670-51384-MA	Aloisia Allner	aallner0@lulu.com	+1 (862) 817-0124	57999 Pepper Wood Alley	Paterson	United States	7505	Yes
3	73342-18763-UW	Piotr Bote	pbote1@yelp.com	+353 (913) 396-4653	2112 Ridgeway Hill	Crumlin	Ireland	D6W	No
4	21125-22134-PX	Jami Redholes	jredholes2@tmall.com	+1 (210) 986-6806	5214 Bartillon Park	San Antonio	United States	78205	Yes
5	71253-00052-RN	Dene Azema	dazema3@facebook.com	+1 (217) 418-0714	27 Maywood Place	Springfield	United States	62711	Yes
6	23806-46781-OU	Christoffer O' Shea		+353 (698) 362-9201	38980 Manitowish Junction	Cill Airne	Ireland	N41	No
7	86561-91660-RB	Beryle Cottier		+1 (570) 289-7473	2651 Stoughton Place	Scranton	United States	18505	No
8	65223-29612-CB	Shaylynn Lobe	slobe6@nifty.com	+1 (937) 954-4541	7005 Mariners Cove Place	Dayton	United States	45440	Yes
9	21134-81676-FR	Melvin Wharfe		+353 (507) 574-3034	7 Straubel Road	Kill	Ireland	P24	Yes
10	03396-68805-ZC	Guthrey Petracci	gpetracci8@livejournal.com	+1 (310) 868-1842	949 Paget Parkway	Los Angeles	United States	90045	No
11	61021-27840-ZN	Rodger Raven	rraven9@ed.gov	+1 (213) 263-0288	1 Reinke Avenue	Los Angeles	United States	90065	No
12	76239-90137-UQ	Ferrell Ferber	fferbera@businesswire.com	+1 (408) 383-5302	68 High Crossing Court	San Jose	United States	95160	No
13	49315-21985-BB	Duky Phizackerly	dphizackerlyb@utexas.edu	+1 (408) 533-6012	28643 Bluejay Crossing	San Jose	United States	95194	Yes
14	34136-36674-OM	Rosaleen Scholar	rscholarc@nyu.edu	+1 (804) 420-0420	80915 Montana Park	Richmond	United States	23285	No
15	39396-12890-PE	Terence Vanyutin	tvanyutind@wix.com		331 Bunting Hill	Migrate	United States	41905	No
16	95875-73336-RG	Patrice Trobe	ptrobee@wunderground.com	+1 (314) 240-7896	827 Declaration Plaza	Saint Louis	United States	63131	Yes
17	25473-43727-BY	Llywellyn Oscroft	loscroftf@ebay.co.uk		022 Roth Place	Philadelphia	United States	19172	No
18	99643-51048-IQ	Minni Alabaster	malabasterg@hexun.com	+1 (971) 483-6255	3 Charing Cross Trail	Portland	United States	97271	No
19	62173-15287-CU	Rhianon Broxup	rbroxuph@jimdo.com	+1 (713) 663-1338	83517 Thierer Court	Houston	United States	77240	No
20	57611-05522-ST	Pall Redford	predfordi@ow.ly		7337 Hayes Junction	Caherconlish	Ireland	F45	Yes
21	76664-37050-DT	Aurea Corradino	acorradinoj@harvard.edu	+1 (646) 202-5965	698 Canary Terrace	New York City	United States	10060	Yes
22	84565-53984-SX	Kendal Scardefield		+353 (733) 405-3302	3 Northridge Crossing	Clondalkin	Ireland	D24	Yes
23	03090-88267-BQ	Avrit Davidowsky	adavidowskyl@netvibes.com	+1 (616) 481-9962	9 Warrior Junction	Grand Rapids	United States	49560	No
24	37651-47492-NC	Annabel Antuk	aantukm@kickstarter.com	+1 (941) 740-6268	77965 Lawn Park	Punta Gorda	United States	33982	Yes
25	95399-57205-HI	Iorgo Kleinert	ikleinertn@timesonline.co.uk	+1 (360) 352-6598	1 Morningstar Lane	Vancouver	United States	98682	Yes
26	24010-66714-HW	Chrisy Blofeld	cblofeldo@amazon.co.uk	+1 (303) 936-3357	013 Talisman Terrace	Englewood	United States	80150	No
27	07591-92789-UA	Culley Farris		+1 (941) 267-4822	4 Mitchell Drive	Punta Gorda	United States	33982	Yes
28	49231-44455-IC	Selene Shales	sshalesq@umich.edu	+1 (707) 881-5004	74 Bultman Plaza	Petaluma	United States	94975	Yes
29	50124-88608-EO	Vivie Danneil	vdanneilr@mtv.com	+353 (751) 346-0399	5626 Darwin Avenue	Tralee	Ireland	V92	No
30	00888-74814-UZ	Theresita Newbury	tnewburys@usda.gov	+353 (803) 587-0026	79526 Bultman Lane	Clonskeagh	Ireland	D04	No
31	14158-30713-OB	Mozelle Calcutt	mcalcuttt@baidu.com	+353 (928) 869-1762	4389 Russell Way	Rathwire	Ireland	Y25	Yes
32	51427-89175-QJ	Adrian Swaine		+1 (303) 486-9517	95 Straubel Hill	Aurora	United States	80044	No
33	52082-49024-ON	Ray Leivesley	rleivesleyv@canalblog.com	+1 (212) 535-7791	91 Stephen Drive	Jamaica	United States	11407	No
34	04540-43685-DV	Nelly Basezzi	nbasezziw@webeden.co.uk	+353 (125) 815-7345	923 Mallard Junction	Bailieborough	Ireland	C15	Yes
35	39123-12846-YJ	Gallard Gatheral	ggatheralx@123-reg.co.uk		40 Clemons Place	Grand Forks	United States	58207	No
36	44981-99666-XB	Una Welberry	uwelberryy@ebay.co.uk	+44 (392) 503-8132	40915 Schlimgen Park	Upton	United Kingdom	DN21	Yes
37	24825-51803-CQ	Faber Eilhart	feilhartz@who.int	+1 (304) 510-6095	6966 Victoria Street	Charleston	United States	25362	No

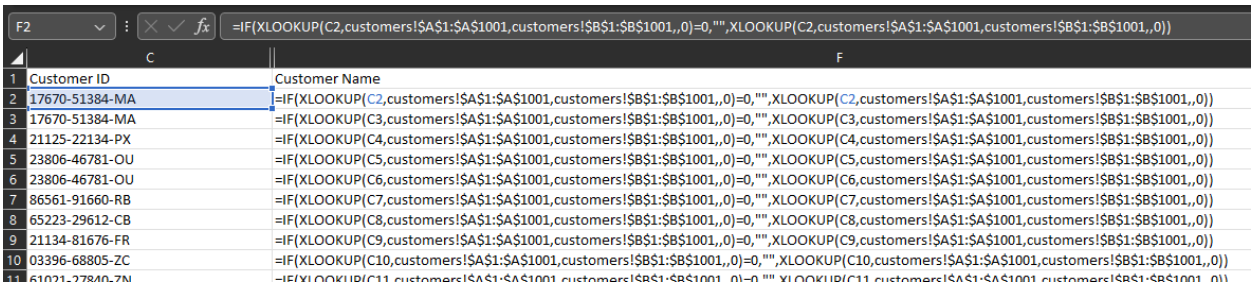
orders | customers | products | +

	A	B	C	D	E	F	G
1	Product ID	Coffee Type	Roast Type	Size	Unit Price	Price per 100g	Profit
2	A-L-0.2	Ara	L	0.2	3.885	1.9425	0.34965
3	A-L-0.5	Ara	L	0.5	7.77	1.554	0.6993
4	A-L-1	Ara	L	1.0	12.95	1.295	1.1655
5	A-L-2.5	Ara	L	2.5	29.785	1.1914	2.68065
6	A-M-0.2	Ara	M	0.2	3.375	1.6875	0.30375
7	A-M-0.5	Ara	M	0.5	6.75	1.35	0.6075
8	A-M-1	Ara	M	1.0	11.25	1.125	1.0125
9	A-M-2.5	Ara	M	2.5	25.875	1.035	2.32875
10	A-D-0.2	Ara	D	0.2	2.985	1.4925	0.26865
11	A-D-0.5	Ara	D	0.5	5.97	1.194	0.5373
12	A-D-1	Ara	D	1.0	9.95	0.995	0.8955
13	A-D-2.5	Ara	D	2.5	22.885	0.9154	2.05965
14	R-L-0.2	Rob	L	0.2	3.585	1.7925	0.2151
15	R-L-0.5	Rob	L	0.5	7.17	1.434	0.4302
16	R-L-1	Rob	L	1.0	11.95	1.195	0.717
17	R-L-2.5	Rob	L	2.5	27.485	1.0994	1.6491
18	R-M-0.2	Rob	M	0.2	2.985	1.4925	0.1791
19	R-M-0.5	Rob	M	0.5	5.97	1.194	0.3582
20	R-M-1	Rob	M	1.0	9.95	0.995	0.597
21	R-M-2.5	Rob	M	2.5	22.885	0.9154	1.3731
22	R-D-0.2	Rob	D	0.2	2.685	1.3425	0.1611
23	R-D-0.5	Rob	D	0.5	5.37	1.074	0.3222
24	R-D-1	Rob	D	1.0	8.95	0.895	0.537
25	R-D-2.5	Rob	D	2.5	20.585	0.8234	1.2351
26	L-L-0.2	Lib	L	0.2	4.755	2.3775	0.61815
27	L-L-0.5	Lib	L	0.5	9.51	1.902	1.2363
28	L-L-1	Lib	L	1.0	15.85	1.585	2.0605
29	L-L-2.5	Lib	L	2.5	36.455	1.4582	4.73915
30	L-M-0.2	Lib	M	0.2	4.365	2.1825	0.56745
31	L-M-0.5	Lib	M	0.5	8.73	1.746	1.1349
32	L-M-1	Lib	M	1.0	14.55	1.455	1.8915
33	L-M-2.5	Lib	M	2.5	33.465	1.3386	4.35045
34	L-D-0.2	Lib	D	0.2	3.885	1.9425	0.50505
35	L-D-0.5	Lib	D	0.5	7.77	1.554	1.0101
36	L-D-1	Lib	D	1.0	12.95	1.295	1.6835
37	L-D-2.5	Lib	D	2.5	29.785	1.1914	3.87205

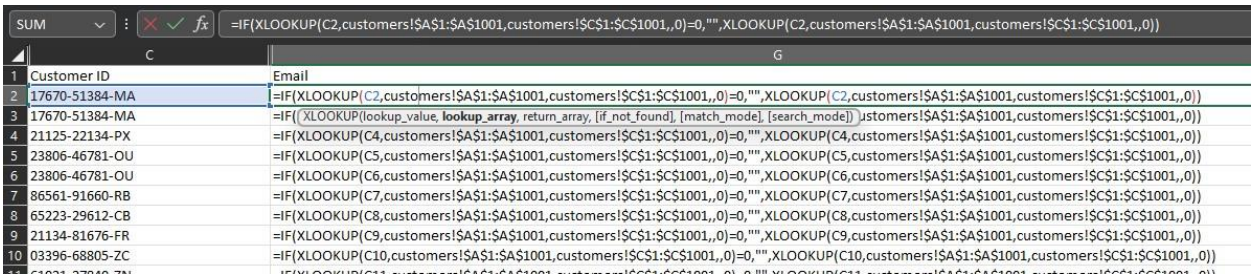
orders | customers | products | +

Steps taken:

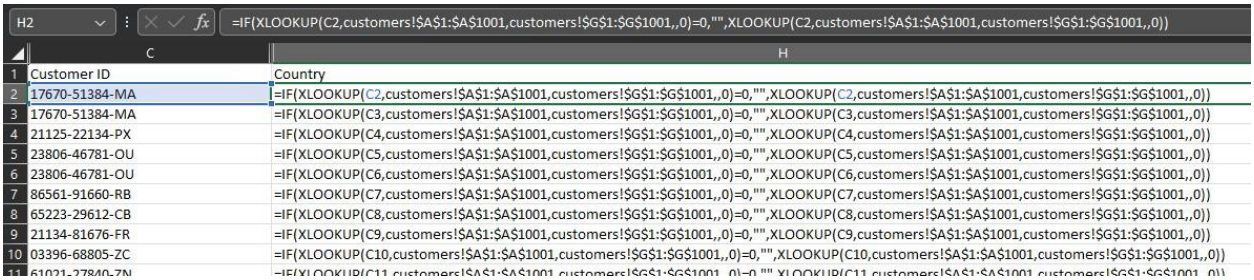
1. The first step in this project was to populate data in the Customer Name (F), Email (G) and Country (H) columns in the Orders tab using the XLOOKUP function from the Customers tab. To eliminate inconsistent values such as "0", I found the IF function of great use too:



	C	F
1	Customer ID	Customer Name
2	17670-51384-MA	=IF(XLOOKUP(C2,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C2,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
3	17670-51384-MA	=IF(XLOOKUP(C3,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C3,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
4	21125-22134-PX	=IF(XLOOKUP(C4,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C4,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
5	23806-46781-OU	=IF(XLOOKUP(C5,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C5,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
6	23806-46781-OU	=IF(XLOOKUP(C6,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C6,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
7	86561-91660-RB	=IF(XLOOKUP(C7,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C7,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
8	65223-29612-CB	=IF(XLOOKUP(C8,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C8,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
9	21134-81676-FR	=IF(XLOOKUP(C9,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C9,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))
10	03396-68805-ZC	=IF(XLOOKUP(C10,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0)=0,"",XLOOKUP(C10,customers!$A$1:$A$1001,customers!$B$1:$B$1001,,0))



	C	G
1	Customer ID	Email
2	17670-51384-MA	=IF(XLOOKUP(C2,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C2,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
3	17670-51384-MA	=IF(XLOOKUP(lookup_value, **lookup_array**, return_array, [if_not_found], [match_mode], [search_mode]) stomers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
4	21125-22134-PX	=IF(XLOOKUP(C4,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C4,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
5	23806-46781-OU	=IF(XLOOKUP(C5,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C5,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
6	23806-46781-OU	=IF(XLOOKUP(C6,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C6,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
7	86561-91660-RB	=IF(XLOOKUP(C7,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C7,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
8	65223-29612-CB	=IF(XLOOKUP(C8,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C8,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
9	21134-81676-FR	=IF(XLOOKUP(C9,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C9,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))
10	03396-68805-ZC	=IF(XLOOKUP(C10,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0)=0,"",XLOOKUP(C10,customers!$A$1:$A$1001,customers!$C$1:$C$1001,,0))



	C	H
1	Customer ID	Country
2	17670-51384-MA	=IF(XLOOKUP(C2,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C2,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
3	17670-51384-MA	=IF(XLOOKUP(C3,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C3,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
4	21125-22134-PX	=IF(XLOOKUP(C4,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C4,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
5	23806-46781-OU	=IF(XLOOKUP(C5,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C5,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
6	23806-46781-OU	=IF(XLOOKUP(C6,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C6,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
7	86561-91660-RB	=IF(XLOOKUP(C7,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C7,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
8	65223-29612-CB	=IF(XLOOKUP(C8,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C8,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
9	21134-81676-FR	=IF(XLOOKUP(C9,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C9,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))
10	03396-68805-ZC	=IF(XLOOKUP(C10,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0)=0,"",XLOOKUP(C10,customers!$A$1:$A$1001,customers!$G$1:$G$1001,,0))

	A	B	C	D	E	F	G	H
1	Order ID	Order Date	Customer ID	Product ID	Quantity	Customer Name	Email	Country
2	QEV-37451-860	43713	17670-51384-MA	R-M-1	2	Aloisia Allner	aallner0@lulu.com	United States
3	QEV-37451-860	43713	17670-51384-MA	E-M-0.5	5	Aloisia Allner	aallner0@lulu.com	United States
4	FAA-43335-268	44364	21125-22134-PX	A-L-1	1	Jami Redholes	jredholes2@tmall.com	United States
5	KAC-83089-793	44392	23806-46781-OU	E-M-1	2	Christoffer O' Shea		Ireland
6	KAC-83089-793	44392	23806-46781-OU	R-L-2.5	2	Christoffer O' Shea		Ireland
7	CVP-18956-553	44412	86561-91660-RB	L-D-1	3	Beryle Cottier		United States
8	IPP-31994-879	44582	65223-29612-CB	E-D-0.5	3	Shaylynn Lobe	slobe6@nifty.com	United States
9	SNZ-65340-705	44701	21134-81676-FR	L-L-0.2	1	Melvin Wharfe		Ireland
10	EZT-46571-659	43467	03396-68805-ZC	R-M-0.5	3	Guthrey Petracci	gpetracci8@livejournal.com	United States
11	NWQ-70061-912	43713	61021-27840-ZN	R-M-0.5	1	Rodger Raven	rraven9@ed.gov	United States

2. For the next step, I used the INDEX and MATCH functions to populate data in the Coffee Type (I), Roast Type (J), Size (K) and Unit Price (L) columns from the Products tab.
   First, I opened an INDEX formula to indicate the array table in the Products tab, and then used the MATCH formula to indicate the row and column numbers which would be used inside. Using locks in rows and columns was also essential to drag and populate the required data into cells "I1" through "L1001":

I2 =INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))

	D	E	I
1	Product ID	Quantity	Coffee Type
2	R-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
3	E-M-0.5	5	=INDEX(products!$A$1:$G$49,MATCH(orders!$D3,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
4	A-L-1	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D4,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
5	E-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D5,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
6	R-L-2.5	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D6,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
7	L-D-1	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D7,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
8	E-D-0.5	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D8,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))
9	L-L-0.2	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D9,products!$A$1:$A$49,0), MATCH(orders!I$1,products!$A$1:$G$1,0))

J2 =INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))

	D	E	J
1	Product ID	Quantity	Roast Type
2	R-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
3	E-M-0.5	5	=INDEX(products!$A$1:$G$49,MATCH(orders!$D3,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
4	A-L-1	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D4,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
5	E-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D5,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
6	R-L-2.5	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D6,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
7	L-D-1	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D7,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
8	E-D-0.5	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D8,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))
9	L-L-0.2	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D9,products!$A$1:$A$49,0), MATCH(orders!J$1,products!$A$1:$G$1,0))

K2 =INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))

	D	E	K
1	Product ID	Quantity	Size
2	R-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
3	E-M-0.5	5	=INDEX(products!$A$1:$G$49,MATCH(orders!$D3,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
4	A-L-1	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D4,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
5	E-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D5,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
6	R-L-2.5	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D6,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
7	L-D-1	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D7,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
8	E-D-0.5	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D8,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))
9	L-L-0.2	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D9,products!$A$1:$A$49,0), MATCH(orders!K$1,products!$A$1:$G$1,0))

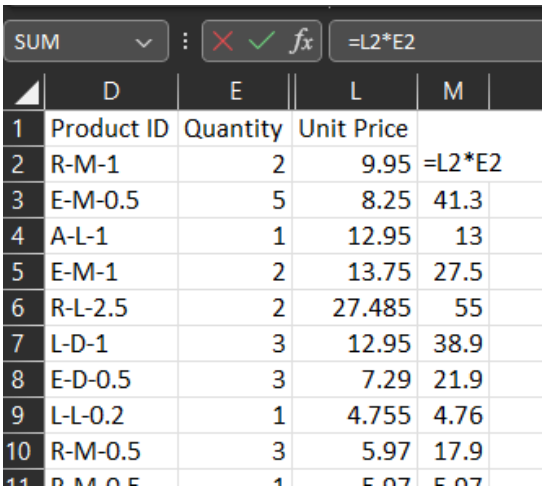
L2 =INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))

	D	E	L
1	Product ID	Quantity	Unit Price
2	R-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D2,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
3	E-M-0.5	5	=INDEX(products!$A$1:$G$49,MATCH(orders!$D3,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
4	A-L-1	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D4,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
5	E-M-1	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D5,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
6	R-L-2.5	2	=INDEX(products!$A$1:$G$49,MATCH(orders!$D6,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
7	L-D-1	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D7,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
8	E-D-0.5	3	=INDEX(products!$A$1:$G$49,MATCH(orders!$D8,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))
9	L-L-0.2	1	=INDEX(products!$A$1:$G$49,MATCH(orders!$D9,products!$A$1:$A$49,0), MATCH(orders!L$1,products!$A$1:$G$1,0))

D1 Product ID

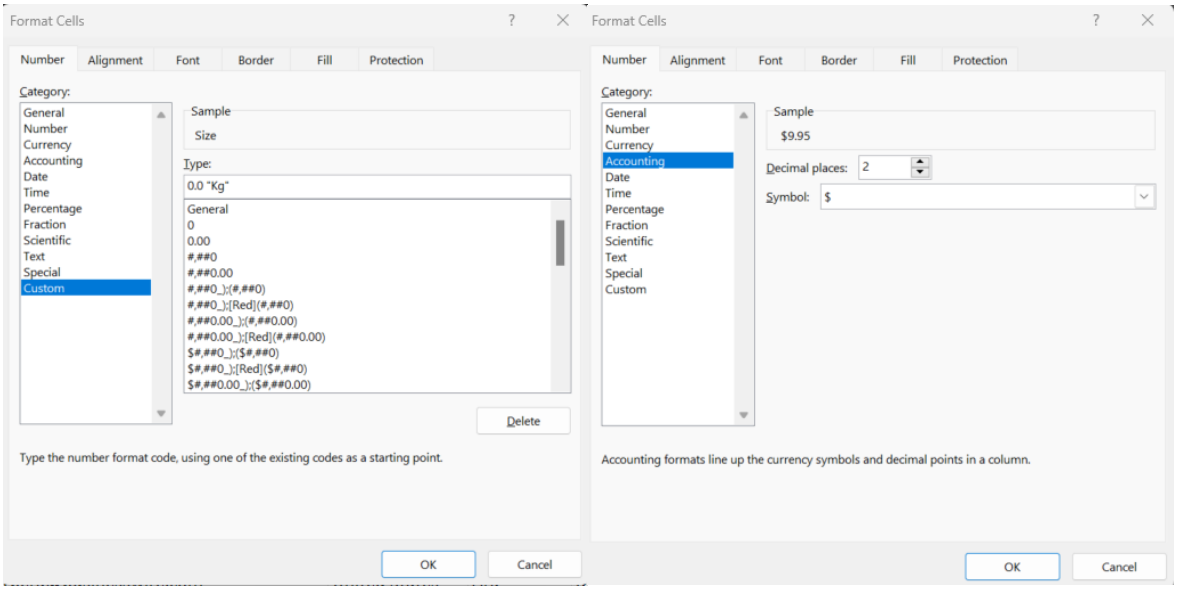
	D	E	I	J	K	L	M	N
1	Product ID	Quantity	Coffee Type	Roast Type	Size	Unit Price	Sales	
2	R-M-1	2	Rob	M	1	9.95		
3	E-M-0.5	5	Exc	M	0.5	8.25		
4	A-L-1	1	Ara	L	1	12.95		
5	E-M-1	2	Exc	M	1	13.75		
6	R-L-2.5	2	Rob	L	2.5	27.485		
7	L-D-1	3	Lib	D	1	12.95		
8	E-D-0.5	3	Exc	D	0.5	7.29		
9	L-L-0.2	1	Lib	L	0.2	4.755		
10	R-M-0.5	3	Rob	M	0.5	5.97		
11	R-M-0.5	1	Rob	M	0.5	5.97		

3. For the Sales column all I did was to multiply the Quantity (E) by the Unit Price (L) and auto-populate the data for the rest of the rows in column M:



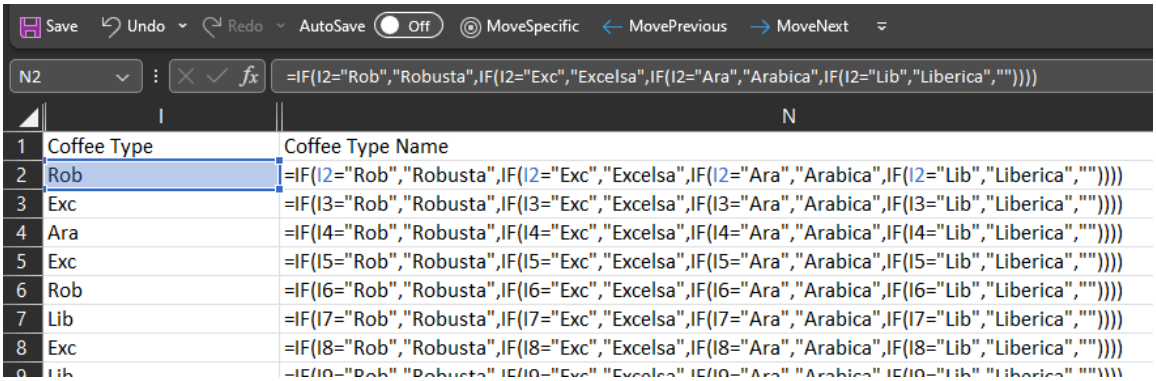
	D	E	L	M
1	Product ID	Quantity	Unit Price	
2	R-M-1	2	9.95	=L2*E2
3	E-M-0.5	5	8.25	41.3
4	A-L-1	1	12.95	13
5	E-M-1	2	13.75	27.5
6	R-L-2.5	2	27.485	55
7	L-D-1	3	12.95	38.9
8	E-D-0.5	3	7.29	21.9
9	L-L-0.2	1	4.755	4.76
10	R-M-0.5	3	5.97	17.9

4. Next was formatting cells for coffee size (K), Unit Price (L) and Sales (M) using kilograms and dollar units:

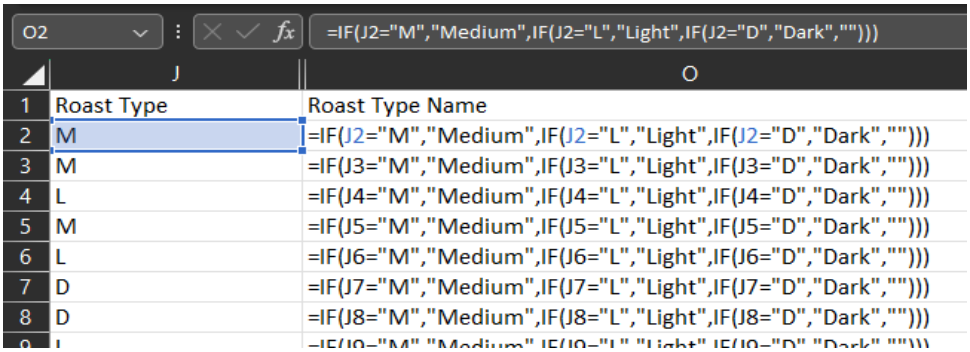


K	L	M
Size	Unit Price	Sales
1.0 Kg	$ 9.95	$ 19.90
0.5 Kg	$ 8.25	$ 41.25
1.0 Kg	$ 12.95	$ 12.95
1.0 Kg	$ 13.75	$ 27.50
2.5 Kg	$ 27.49	$ 54.97
1.0 Kg	$ 12.95	$ 38.85
0.5 Kg	$ 7.29	$ 21.87
0.2 Kg	$ 4.76	$ 4.76
0.5 Kg	$ 5.97	$ 17.91
0.5 Kg	$ 5.97	$ 5.97
1.0 Kg	$ 9.95	$ 39.80
2.5 Kg	$ 34.16	$ 170.78
1.0 Kg	$ 9.95	$ 49.75
2.5 Kg	$ 20.59	$ 41.17

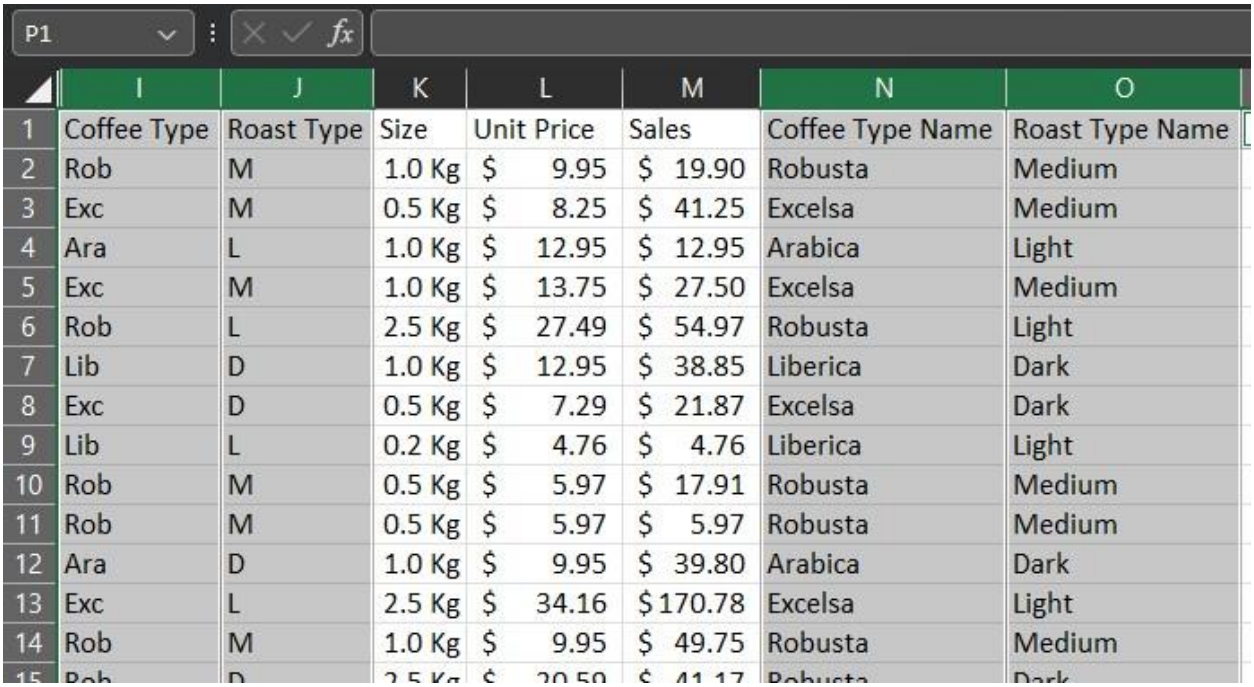
5. Next, I created new fields in column N and O to populate complete name information from the Coffee Type (I) and Roast Type (J) records.
   To populate this data, I used the IF function to identify values ('Rob,' 'Exc,' 'Ara,' or 'Lib' for the Coffee Type column/'M', 'L' or 'D' for the Roast Type column) and if these held true, then the complete corresponding name would be addressed:



	I	N
1	Coffee Type	Coffee Type Name
2	Rob	=IF(I2="Rob","Robusta",IF(I2="Exc","Excelsa",IF(I2="Ara","Arabica",IF(I2="Lib","Liberica",""))))
3	Exc	=IF(I3="Rob","Robusta",IF(I3="Exc","Excelsa",IF(I3="Ara","Arabica",IF(I3="Lib","Liberica",""))))
4	Ara	=IF(I4="Rob","Robusta",IF(I4="Exc","Excelsa",IF(I4="Ara","Arabica",IF(I4="Lib","Liberica",""))))
5	Exc	=IF(I5="Rob","Robusta",IF(I5="Exc","Excelsa",IF(I5="Ara","Arabica",IF(I5="Lib","Liberica",""))))
6	Rob	=IF(I6="Rob","Robusta",IF(I6="Exc","Excelsa",IF(I6="Ara","Arabica",IF(I6="Lib","Liberica",""))))
7	Lib	=IF(I7="Rob","Robusta",IF(I7="Exc","Excelsa",IF(I7="Ara","Arabica",IF(I7="Lib","Liberica",""))))
8	Exc	=IF(I8="Rob","Robusta",IF(I8="Exc","Excelsa",IF(I8="Ara","Arabica",IF(I8="Lib","Liberica",""))))

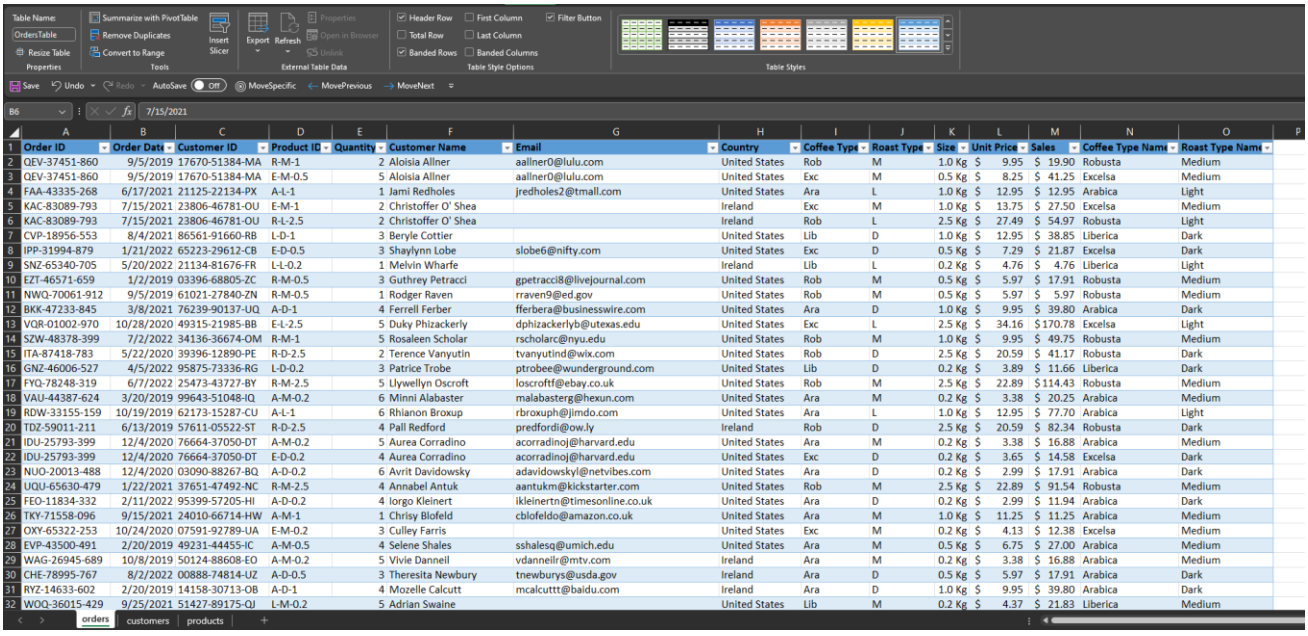


	J	O
1	Roast Type	Roast Type Name
2	M	=IF(J2="M","Medium",IF(J2="L","Light",IF(J2="D","Dark","")))
3	M	=IF(J3="M","Medium",IF(J3="L","Light",IF(J3="D","Dark","")))
4	L	=IF(J4="M","Medium",IF(J4="L","Light",IF(J4="D","Dark","")))
5	M	=IF(J5="M","Medium",IF(J5="L","Light",IF(J5="D","Dark","")))
6	L	=IF(J6="M","Medium",IF(J6="L","Light",IF(J6="D","Dark","")))
7	D	=IF(J7="M","Medium",IF(J7="L","Light",IF(J7="D","Dark","")))
8	D	=IF(J8="M","Medium",IF(J8="L","Light",IF(J8="D","Dark","")))

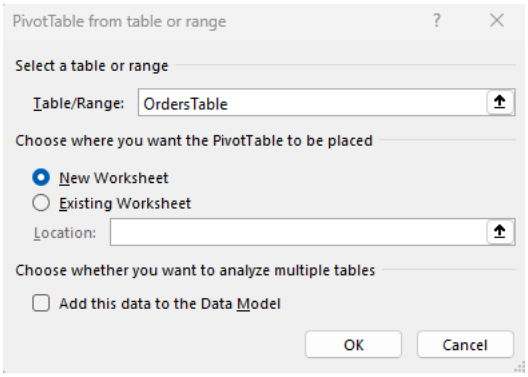


	I	J	K	L	M	N	O
1	Coffee Type	Roast Type	Size	Unit Price	Sales	Coffee Type Name	Roast Type Name
2	Rob	M	1.0 Kg	$ 9.95	$ 19.90	Robusta	Medium
3	Exc	M	0.5 Kg	$ 8.25	$ 41.25	Excelsa	Medium
4	Ara	L	1.0 Kg	$ 12.95	$ 12.95	Arabica	Light
5	Exc	M	1.0 Kg	$ 13.75	$ 27.50	Excelsa	Medium
6	Rob	L	2.5 Kg	$ 27.49	$ 54.97	Robusta	Light
7	Lib	D	1.0 Kg	$ 12.95	$ 38.85	Liberica	Dark
8	Exc	D	0.5 Kg	$ 7.29	$ 21.87	Excelsa	Dark
9	Lib	L	0.2 Kg	$ 4.76	$ 4.76	Liberica	Light
10	Rob	M	0.5 Kg	$ 5.97	$ 17.91	Robusta	Medium
11	Rob	M	0.5 Kg	$ 5.97	$ 5.97	Robusta	Medium
12	Ara	D	1.0 Kg	$ 9.95	$ 39.80	Arabica	Dark
13	Exc	L	2.5 Kg	$ 34.16	$ 170.78	Excelsa	Light
14	Rob	M	1.0 Kg	$ 9.95	$ 49.75	Robusta	Medium

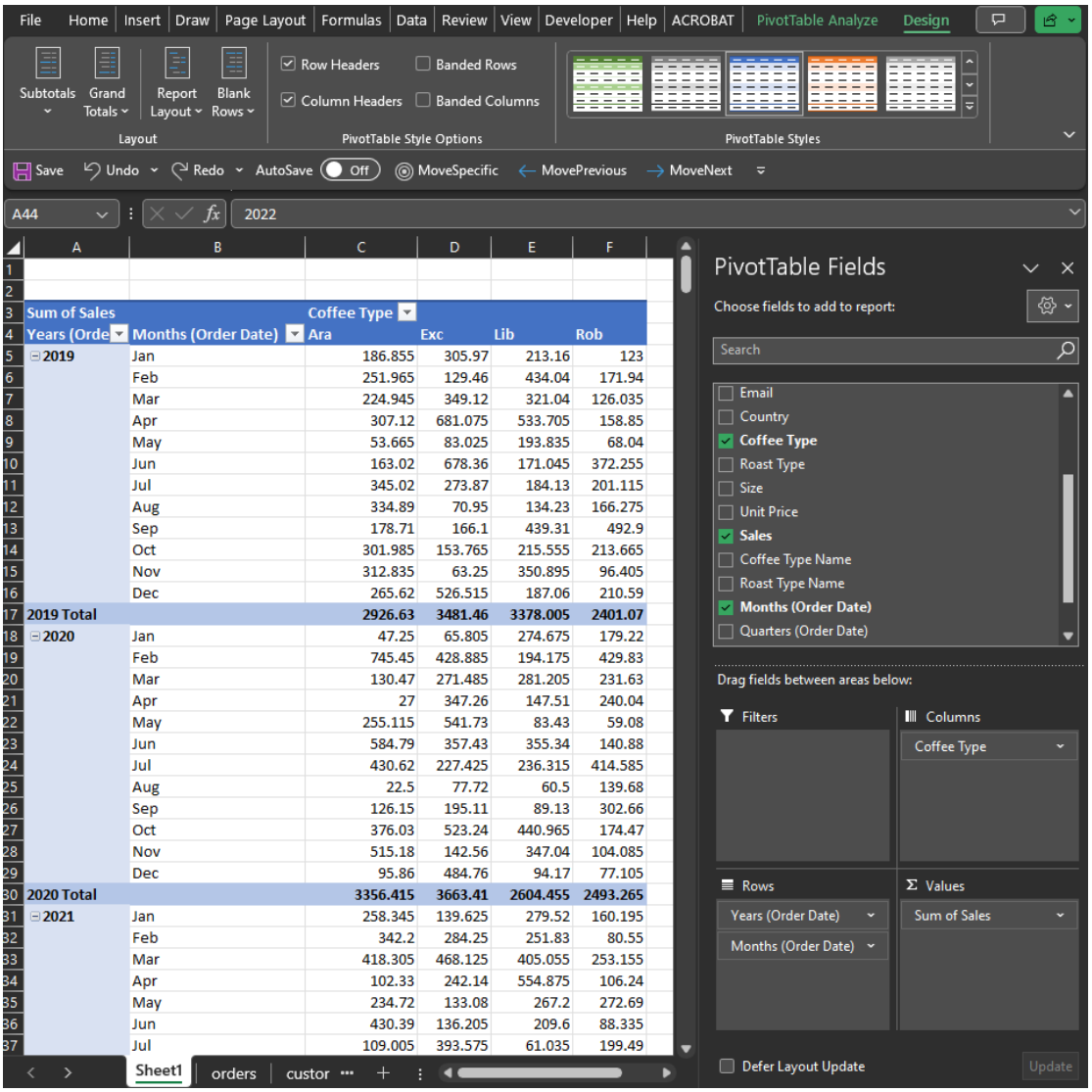
6. Next, I formatted the Orders dataset as a table of my choice to sort and filter data, as well as for frequent records to be updated in pivot tables and charts in the future. In this project I named my table 'OrdersTable'.



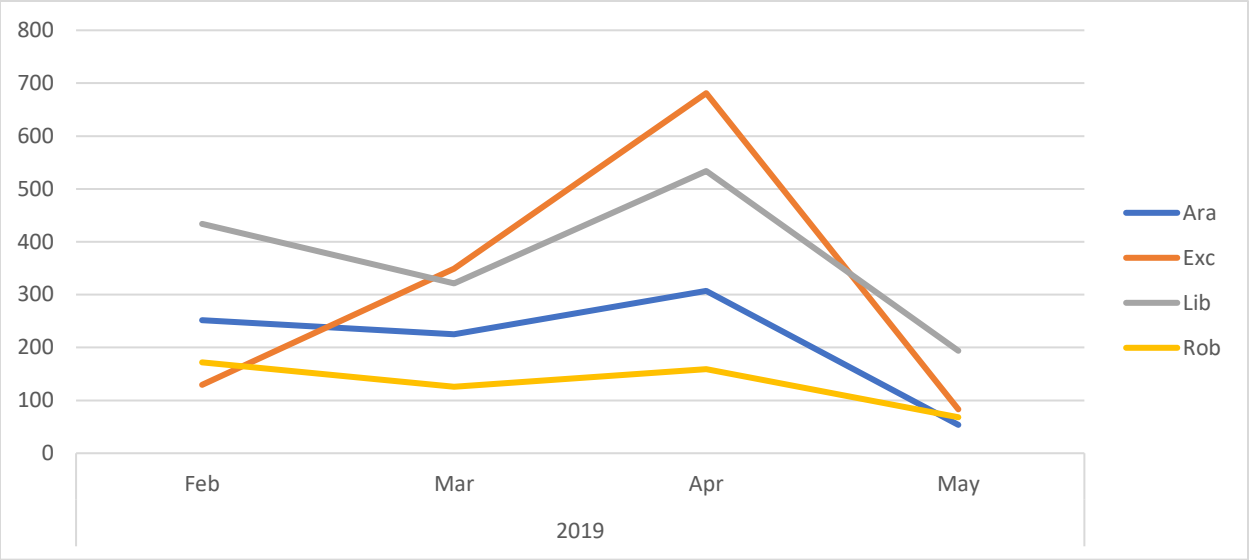
7. The next part of this project was to insert pivot tables and charts from the Orders tab on different worksheets. First, I inserted a pivot table in a new worksheet as show below:



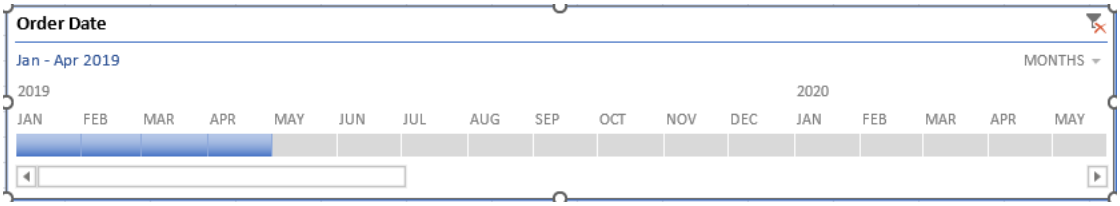
8. Next, in the Design tab I adjusted the Grand Totals and Report layouts to show in tabular form:

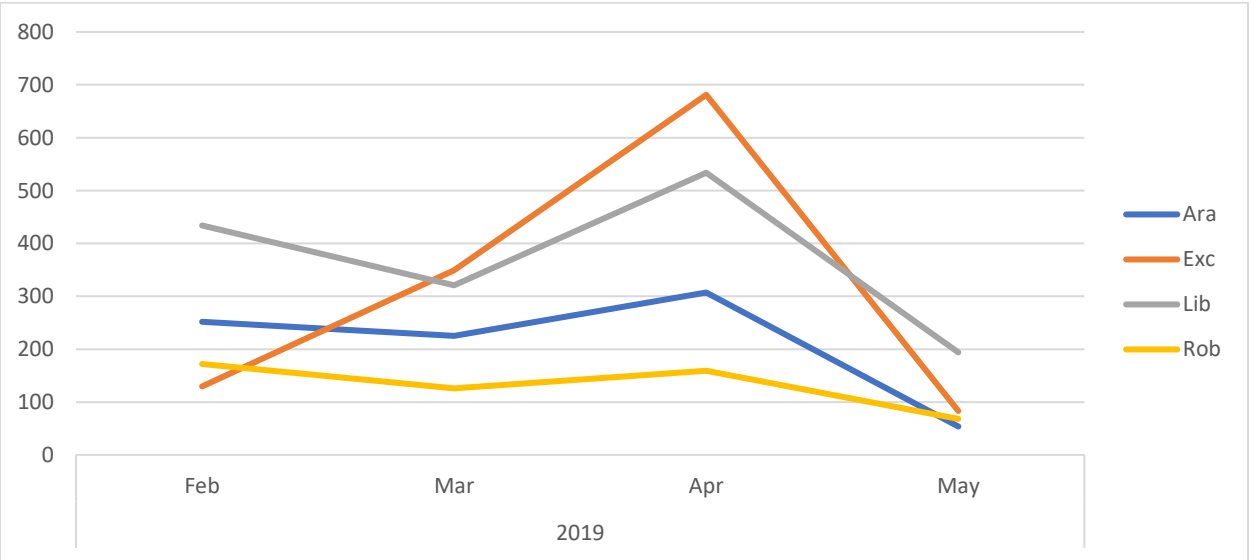


9. Next, I inserted a line chart to reflect the total sales data from the pivot table:

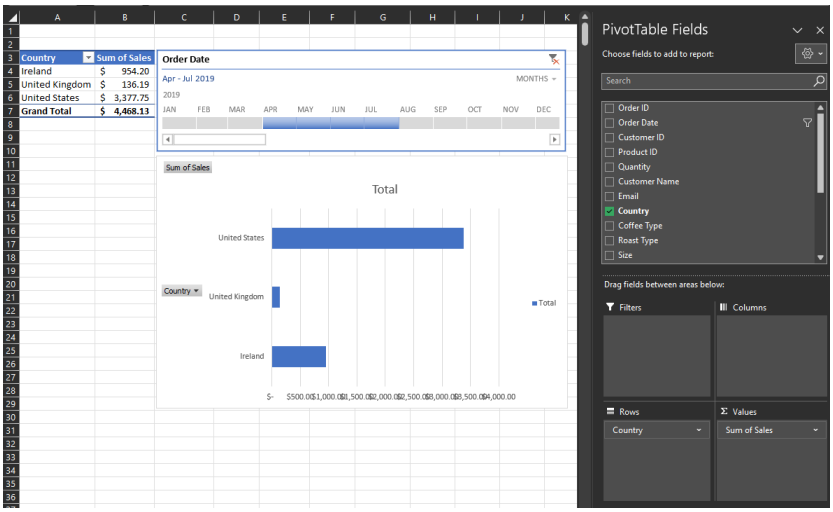


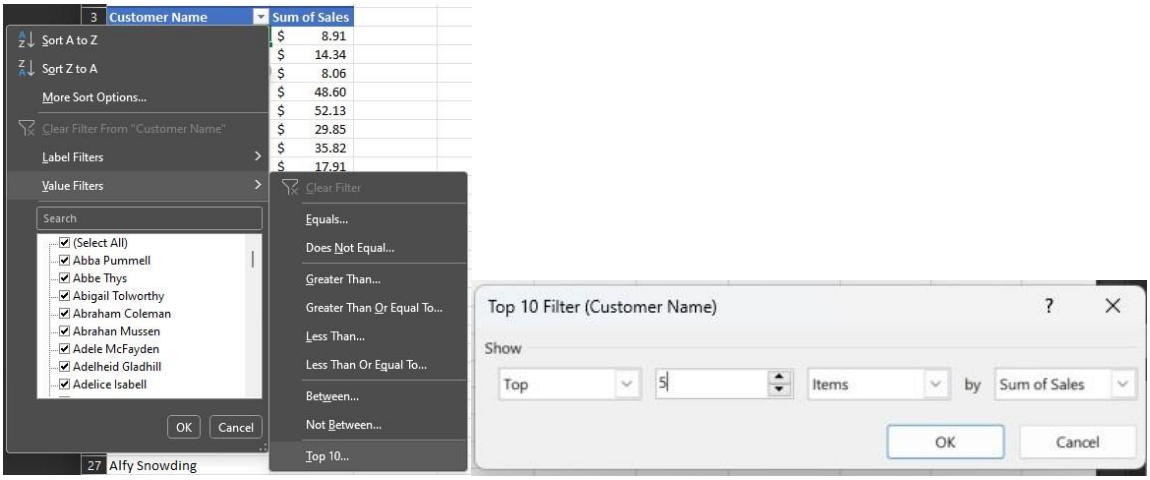
10. Since this chart involved dates, I inserted a Timeline to filter the chart as necessary:

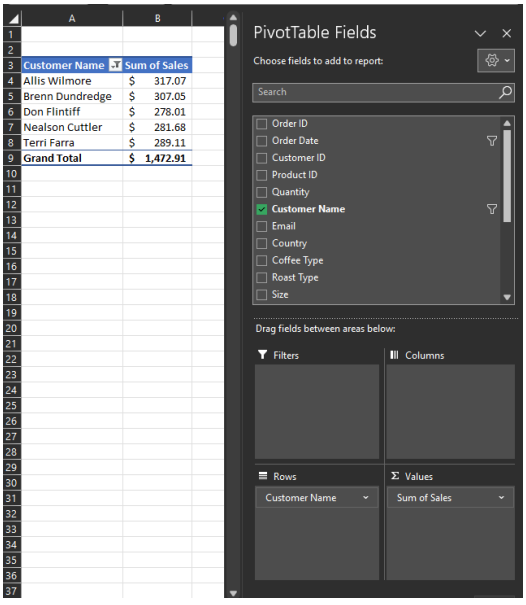




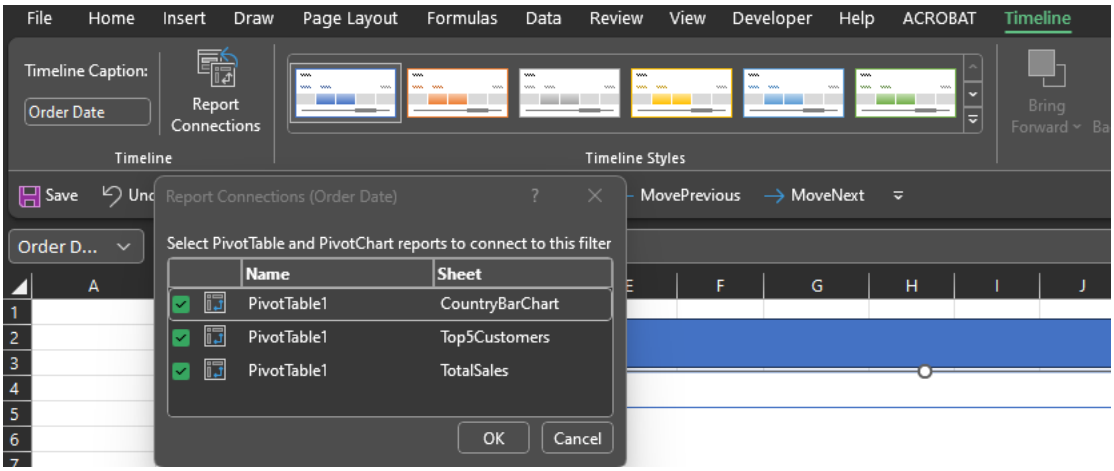
11. Other worksheets I have worked on to summarize large data was to present clustered bar charts and 3-D clustered column charts for each country and the top 5 customers:

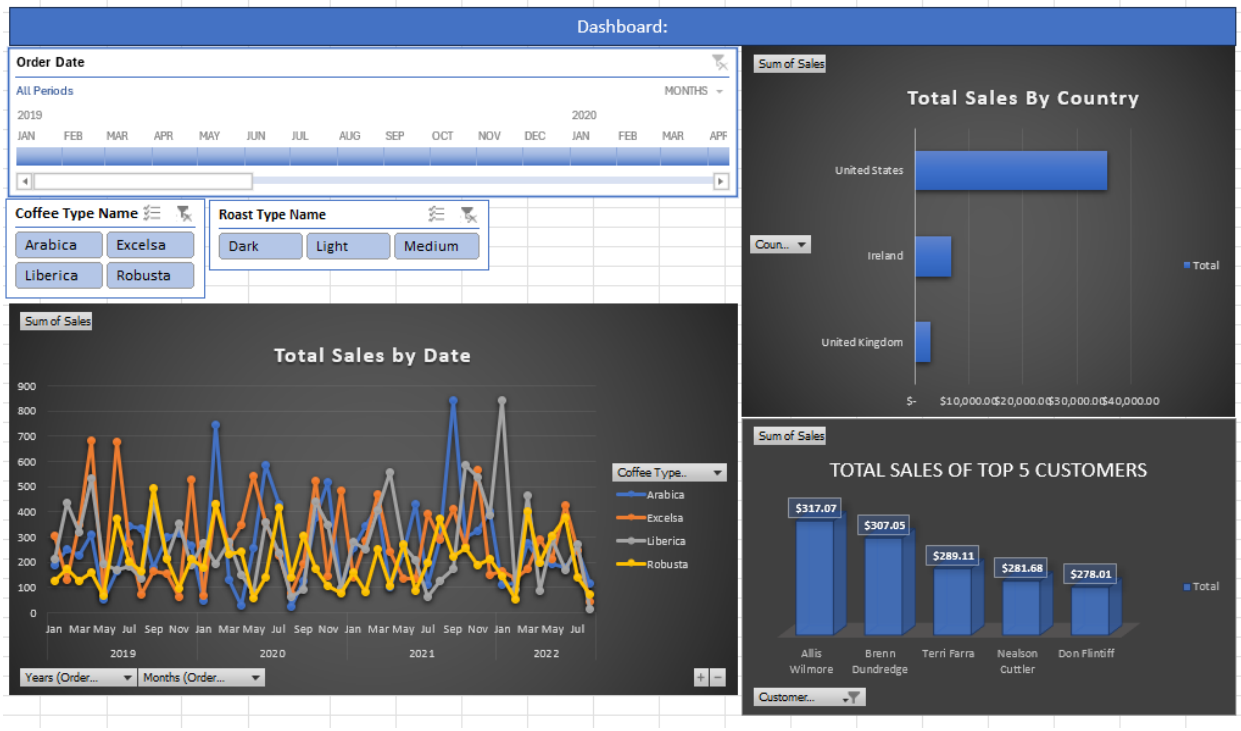






12. As the final step of this project, I cut the charts and the timeline into a new worksheet to create an interactive dashboard. For the timeline filter to work in all charts, I selected the pivot tables to connect with the timeline. Similarly, I created slicers for the coffee and roast type and reported the connections necessary for my dashboard.





13. As a bonus step I have extracted, transformed and loaded this data in Power BI and used cards, tables, slicers, line, column and bar charts to create an interactive dashboard. The result being:

References:

- https://www.youtube.com/watch?v=m13o5aqeCbM
- https://github.com/mochen862/excel-project-coffee-sales