Task One

Practise common keyboard shortcuts to make working in Excel more efficient.

Spreadsheet actions and movement:

- Save: Ctrl-S
- Print: Ctrl-P
- Undo: Ctrl-Z
- Redo: Ctrl-Y
- Jump to Bottom of Data: Ctrl-Down Arrow
- Jump to Top of Data: Ctrl-Up Arrow
- Go to Previous Sheet: Ctrl-Page Up
- Go to Next Sheet: Ctrl-Page Down

Data selection:

- Select All Data in Column: Ctrl-Shift-Down Arrow
- Select Whole Column: Ctrl-Space
- Select All Data in Row: Shift-Space
- Select All Data in Region: Ctrl-A

Task Two (background)

Demonstrate key conditional formatting techniques in Microsoft Excel.

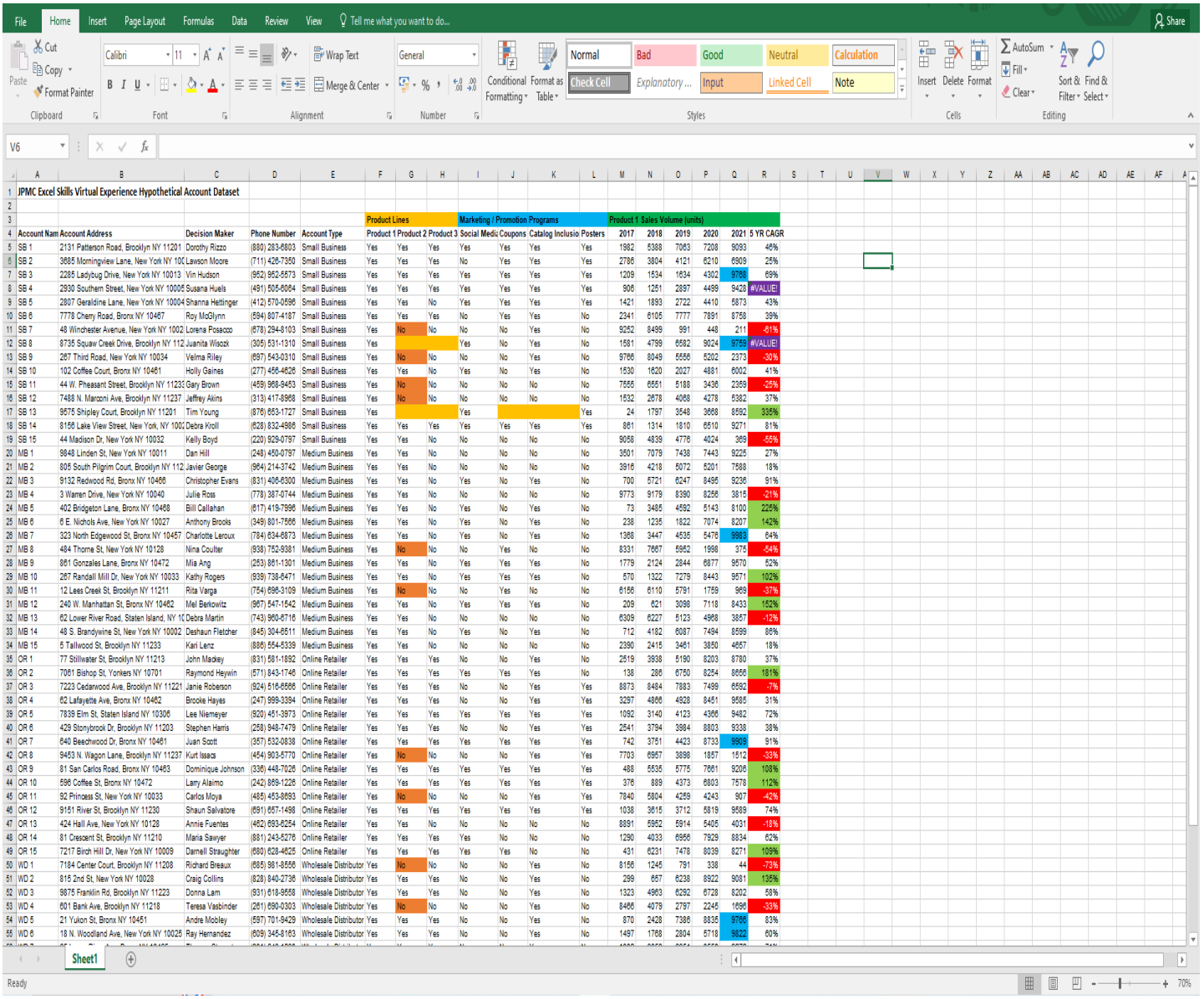
Conditional formatting is a technique in Excel to make data exploration visual. You format the data (its colors, fonts, highlighting, etc.) based on the criteria you select. This allows you to quickly identify values that are either a data quality problem (missing values, formula errors, nonsensical values, etc.) or a value that drives insights and decisions (i.e., sales growth below a set target; inventory below a set amount, which would trigger re-ordering; etc.)

Excel's conditional formatting tools are easy to use but have a large and powerful array of options for criteria to base formatting on, including the ability to write your own formulas. You can even use the conditional formatting tools to format colorful and visually easy-to-read reports and simple dashboards of your data, creating visuals such as "heat maps" and even "Harvey ball" rankings to visually indicate data that meet specific criteria.

Excel file attached name -Account Sales Data for Analysis

TASK-
use the conditional formatting tools (either the menu-based tools or write your own conditional formatting formulas, whichever you prefer) to do the following explorations of the data:

- Highlight any cells with formula errors in purple with white text.
- Highlight any cells with missing values in yellow.
- Identify accounts that have not been cross-sold with Product 2 by highlighting the appropriate Product 2 cells in orange.
- Identify accounts that have a 5-year sales CAGR of at least 100% by highlighting the appropriate CAGR cells in green and any accounts with a negative CAGR in red with white text.
- Identify accounts in the top 10% of unit sales for 2021 by highlighting the appropriate 2021 unit sales cells in blue.



JPMC Excel Skills Virtual Experience Hypothetical Account Dataset																		
					Product Lines			Marketing / Promotion Programs				Product 1 Sales Volume (units)						
Account Nam	Account Address	Decision Maker	Phone Number	Account Type	Product 1	Product 2	Product 3	Social Media	Coupons	Catalog Inclusio	Posters	2017	2018	2019	2020	2021	5 YR CAGR
SB 1	2131 Patterson Road, Brooklyn NY 11201	Dorothy Rizzo	(880) 283-6803	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1982	5388	7063	7208	9093	46%
SB 2	3685 Morningview Lane, New York NY 10(	Lawson Moore	(711) 426-7350	Small Business	Yes	Yes	Yes	No	Yes	Yes	Yes	2786	3804	4121	6210	6909	25%
SB 3	2285 Ladybug Drive, New York NY 10013	Vin Hudson	(952) 952-5573	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1209	1634	1634	4302	9768	69%
SB 4	2930 Southern Street, New York NY 10005	Susana Huels	(491) 505-6064	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	906	1251	2897	4498	9428	#VALUE!
SB 5	2807 Geraldine Lane, New York NY 10004	Shanna Hettinger	(412) 570-0596	Small Business	Yes	Yes	No	Yes	Yes	Yes	Yes	1421	1893	2722	4410	5873	43%
SB 6	7778 Cherry Road, Bronx NY 10467	Roy McGlynn	(594) 807-4187	Small Business	Yes	Yes	Yes	No	Yes	Yes	No	2341	6105	7777	7891	8758	39%
SB 7	48 Winchester Avenue, New York NY 1002	Lorena Posacco	(678) 294-8103	Small Business	Yes	No	No	No	No	Yes	No	9252	8499	991	448	211	-61%
SB 8	8735 Squaw Creek Drive, Brooklyn NY 112	Juanita Wisozk	(305) 531-1310	Small Business	Yes			Yes	No	Yes	No	1581	4799	6582	9024	9759	#VALUE!
SB 9	267 Third Road, New York NY 10034	Velma Riley	(697) 543-0310	Small Business	Yes	No	No	No	No	Yes	No	9766	8049	5556	5202	2373	-30%
SB 10	102 Coffee Court, Bronx NY 10461	Holly Gaines	(277) 456-4626	Small Business	Yes	Yes	No	Yes	No	Yes	No	1530	1620	2027	4881	6002	41%
SB 11	44 W. Pheasant Street, Brooklyn NY 1123	Gary Brown	(459) 968-9453	Small Business	Yes	No	No	No	No	No	No	7555	6551	5188	3436	2369	-25%
SB 12	7488 N. Marconi Ave, Brooklyn NY 11237	Jeffrey Akins	(313) 417-8968	Small Business	Yes	No	No	No	No	No	No	1532	2678	4068	4278	5382	37%
SB 13	9575 Shipley Court, Brooklyn NY 11201	Tim Young	(876) 653-1727	Small Business	Yes			Yes			Yes	24	1797	3549	3668	8592	336%
SB 14	8156 Lake View Street, New York, NY 100	Debra Kroll	(628) 832-4986	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	861	1314	1810	6510	9271	81%
SB 15	44 Madison Dr, New York NY 10032	Kelly Boyd	(220) 929-0797	Small Business	Yes	Yes	No	No	No	No	No	9058	4839	4776	4024	389	-55%
MB 1	9848 Linden St, New York NY 10011	Dan Hill	(248) 450-0797	Medium Business	Yes	Yes	No	No	No	No	No	3501	7079	7438	7443	9225	27%
MB 2	805 South Pilgrim Court, Brooklyn NY 112	Javier George	(964) 214-3742	Medium Business	Yes	Yes	No	No	No	No	No	3916	4218	5072	5201	7588	18%
MB 3	9132 Redwood Rd, Bronx NY 10466	Christopher Evans	(831) 406-6300	Medium Business	Yes	Yes	No	Yes	No	Yes	No	700	5721	6247	8495	9236	91%
MB 4	3 Warren Drive, New York NY 10040	Julie Ross	(778) 387-0744	Medium Business	Yes	Yes	No	No	No	No	No	9773	9179	8390	8256	3815	-21%
MB 5	402 Bridgeton Lane, Bronx NY 10468	Bill Callahan	(617) 419-7996	Medium Business	Yes	Yes	No	Yes	No	Yes	No	73	3485	4592	5143	8100	226%
MB 6	6 E. Nichols Ave, New York NY 10027	Anthony Brooks	(349) 801-7566	Medium Business	Yes	Yes	No	No	No	Yes	No	238	1235	1822	7074	8207	142%
MB 7	323 North Edgewood St, Bronx NY 10457	Charlotte Leroux	(784) 634-6873	Medium Business	Yes	Yes	No	Yes	No	Yes	No	1368	3447	4535	5476	9883	64%
MB 8	484 Thorne St, New York NY 10128	Nina Coulter	(938) 752-9381	Medium Business	Yes	No	No	No	No	Yes	No	8331	7667	5952	1998	375	-54%
MB 9	861 Gonzales Lane, Bronx NY 10472	Mia Ang	(253) 861-1301	Medium Business	Yes	Yes	No	No	No	Yes	No	1779	2124	2844	6877	9570	52%
MB 10	267 Randall Mill Dr, New York NY 10033	Kathy Rogers	(939) 738-6471	Medium Business	Yes	Yes	No	Yes	No	Yes	No	570	1322	7279	8443	9571	102%
MB 11	12 Lees Creek St, Brooklyn NY 11211	Rita Varga	(754) 696-3109	Medium Business	Yes	No	No	No	No	Yes	No	6156	6110	5791	1759	969	-37%
MB 12	240 W. Manhattan St, Bronx NY 10462	Mel Berkowitz	(967) 547-1542	Medium Business	Yes	Yes	No	Yes	No	Yes	No	209	621	3098	7118	8433	152%
MB 13	62 Lower River Road, Staten Island, NY 1(	Debra Martin	(743) 960-6716	Medium Business	Yes	Yes	No	No	No	No	No	6309	6227	5123	4968	3857	-12%
MB 14	48 S. Brandywine St, New York NY 10002	Deshaun Fletcher	(845) 304-6511	Medium Business	Yes	Yes	No	No	No	No	No	712	4182	6087	7494	8599	86%
MB 15	5 Tallwood St, Brooklyn NY 11233	Kari Lenz	(886) 554-5339	Medium Business	Yes	Yes	No	No	No	No	No	2390	2415	3461	3850	4657	18%
OR 1	77 Stillwater St, Brooklyn NY 11213	John Mackey	(831) 581-1892	Online Retailer	Yes	Yes	Yes	No	No	Yes	No	2519	3938	5190	8203	8780	37%
OR 2	7061 Bishop St, Yonkers NY 10701	Raymond Heywin	(571) 843-1746	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	No	138	286	6750	8254	8656	181%
OR 3	7223 Cedarwood Ave, Brooklyn NY 11221	Janie Roberson	(924) 516-6666	Online Retailer	Yes	Yes	Yes	No	No	Yes	Yes	8873	8484	7883	7499	6592	-7%
OR 4	62 Lafayette Ave, Bronx NY 10462	Brooke Hayes	(247) 999-3394	Online Retailer	Yes	Yes	Yes	No	No	Yes	Yes	3297	4866	4928	8451	9685	31%
OR 5	7839 Elm St, Staten Island NY 10306	Lee Niemeyer	(920) 451-3973	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1092	3140	4123	4366	9482	72%
OR 6	429 Stonybrook Dr, Brooklyn NY 11203	Stephen Harris	(258) 948-7479	Online Retailer	Yes	Yes	Yes	No	No	Yes	Yes	2541	3794	3984	8803	9338	38%
OR 7	640 Beechwood Dr, Bronx NY 10461	Juan Scott	(357) 532-0838	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	742	3751	4423	8733	9909	91%
OR 8	9453 N. Wagon Lane, Brooklyn NY 11237	Kurt Issacs	(454) 903-5770	Online Retailer	Yes	No	No	No	No	Yes	Yes	7703	6957	3898	1857	1512	-33%
OR 9	81 San Carlos Road, Bronx NY 10463	Dominique Johnson	(336) 448-7026	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	488	5535	5775	7661	9206	108%
OR 10	596 Coffee St, Bronx NY 10472	Larry Alaimo	(242) 869-1226	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	376	889	4373	6803	7578	112%
OR 11	92 Princess St, New York NY 10033	Carlos Moya	(485) 453-9693	Online Retailer	Yes	No	No	No	No	Yes	Yes	7840	5804	4259	4243	907	-42%
OR 12	9151 River St, Brooklyn NY 11230	Shaun Salvatore	(691) 657-1498	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1038	3615	3712	5819	9689	74%
OR 13	424 Hall Ave, New York NY 10128	Annie Fuentes	(462) 693-6254	Online Retailer	Yes	Yes	No	No	No	No	No	8891	5962	5914	5405	4031	-18%
OR 14	81 Crescent St, Brooklyn NY 11210	Maria Sawyer	(881) 243-5276	Online Retailer	Yes	Yes	Yes	Yes	No	No	No	1290	4033	6956	7929	8834	62%
OR 15	7217 Birch Hill Dr, New York NY 10009	Darnell Straughter	(680) 628-4625	Online Retailer	Yes	Yes	Yes	Yes	Yes	No	No	431	6231	7478	8039	8271	109%
WD 1	7184 Center Court, Brooklyn NY 11208	Richard Breaux	(685) 981-8556	Wholesale Distributor	Yes	No	No	No	No	Yes	No	8156	1245	791	338	44	-73%
WD 2	815 2nd St, New York NY 10028	Craig Collins	(828) 840-2736	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	299	657	6238	8922	9081	136%
WD 3	9875 Franklin Rd, Brooklyn NY 11223	Donna Lam	(931) 618-9558	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1323	4963	6292	6728	8202	58%
WD 4	601 Bank Ave, Brooklyn NY 11218	Teresa Vasbinder	(261) 690-0303	Wholesale Distributor	Yes	No	No	No	No	Yes	No	8466	4079	2797	2245	1696	-33%
WD 5	21 Yukon St, Bronx NY 10451	Andre Mobley	(597) 701-9429	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	870	2428	7386	8835	9766	83%
WD 6	18 N. Woodland Ave, New York NY 10025	Ray Hernandez	(609) 345-8163	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1497	1768	2804	5718	9822	60%

Task Three
(background)

Familiarise yourself with VBA, Excel's built-in programming language.

Visual Basic for Applications (VBA) is a useful language to learn and skill to develop because it is built into the entire suite of Microsoft products, meaning VBA is also the programming language built into Word, PowerPoint, and other Microsoft applications. This means you can use VBA to integrate data and reporting across the entire Microsoft suite.

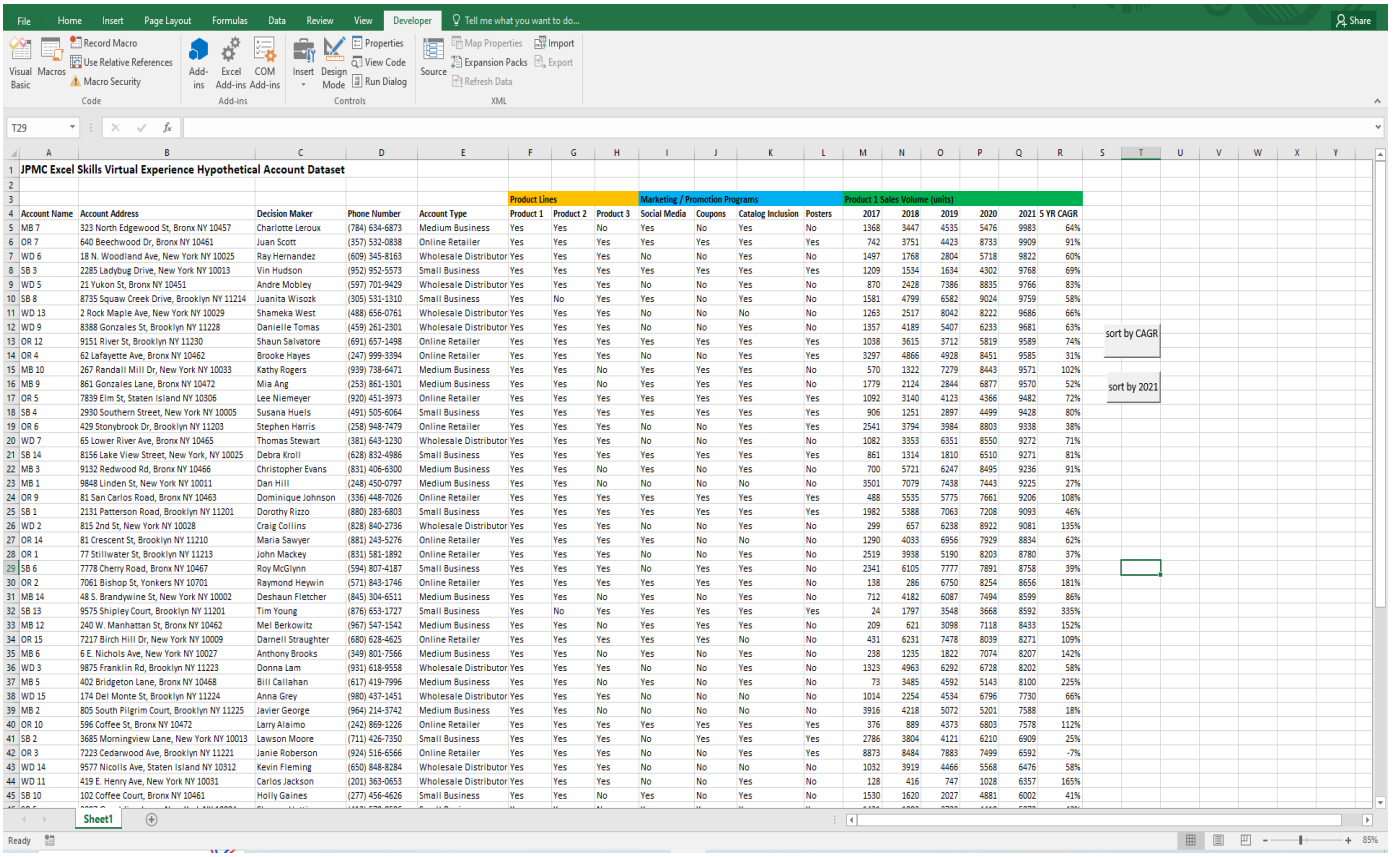
Like any programming language, VBA has its own vocabulary, syntax, and commands to learn. With VBA, you can write sophisticated programs that exceed tasks you could do manually on the keyboard and mouse. While becoming skilled at writing complex VBA programs takes many hours of training, you can learn in just a few minutes to create simple macros to automate common, repetitive tasks in Excel.

A macro is simply a short list of commands written in VBA to automate a set of tasks you could otherwise do manually using the keyboard and mouse. Excel has two methods built-in for creating macros. The easiest way is to “record” the macro, which means telling Excel to “watch” your actions as you do a task using the keyboard and mouse and automatically create a list of commands in VBA that correspond to those actions. Then, you can tell Excel to automatically run that list of commands over and over as needed. That list or script of commands is your macro, and you can assign it to a button on the screen to run it at will. The other method for creating macros is to write the list of commands (the VBA code) yourself without having Excel watch your actions and generate that list for you.

TASK-

You will create two macros and associated buttons:

1. A macro to sort the entire spreadsheet by 5 YR CAGR in descending order to see which accounts have the highest overall 5-year sales growth
2. A macro to sort the entire spreadsheet by 2021 unit sales in descending order to see which accounts have the highest overall unit sales in 2021

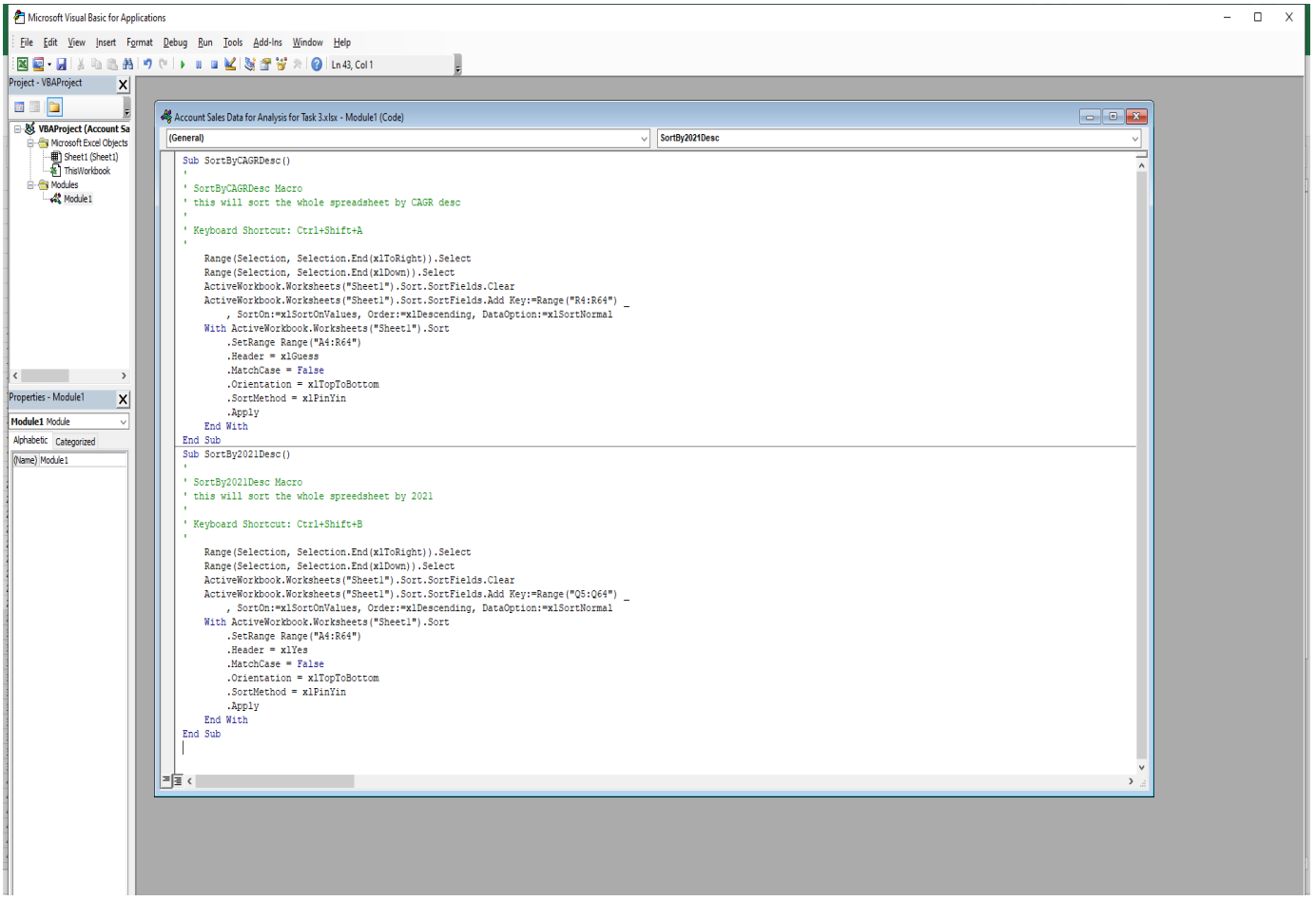


JPMC Excel Skills Virtual Experience Hypothetical Account Dataset

					Product Lines			Marketing / Promotion Programs				Product 1 Sales Volume (units)					
Account Name	Account Address	Decision Maker	Phone Number	Account Type	Product 1	Product 2	Product 3	Social Media	Coupons	Catalog Inclusion	Posters	2017	2018	2019	2020	2021	5 YR CAGR
MB 7	323 North Edgewood St, Bronx NY 10457	Charlotte Leroux	(784) 634-6873	Medium Business	Yes	Yes	No	Yes	No	Yes	No	1368	3447	4535	5476	9983	64%
OR 7	640 Beechwood Dr, Bronx NY 10461	Juan Scott	(357) 532-0838	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	742	3751	4423	8733	9909	91%
WD 6	18 N. Woodland Ave, New York NY 10025	Ray Hernandez	(609) 345-8163	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1497	1768	2804	5718	9822	60%
SB 3	2285 Ladybug Drive, New York NY 10013	Vin Hudson	(952) 952-5573	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1209	1534	1634	4302	9768	69%
WD 5	21 Yukon St, Bronx NY 10451	Andre Mobley	(597) 701-9429	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	870	2428	7386	8835	9766	83%
SB 8	8735 Squaw Creek Drive, Brooklyn NY 11214	Juanita Wisozk	(305) 531-1310	Small Business	Yes	No	Yes	Yes	No	Yes	No	1581	4799	6582	9024	9759	58%
WD 13	2 Rock Maple Ave, New York NY 10029	Shameka West	(488) 656-0761	Wholesale Distributor	Yes	Yes	Yes	No	No	No	No	1263	2517	8042	8222	9686	66%
WD 9	8388 Gonzales St, Brooklyn NY 11228	Danielle Tomas	(459) 261-2301	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1357	4189	5407	6233	9681	63%
OR 12	9151 River St, Brooklyn NY 11230	Shaun Salvatore	(691) 657-1498	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1038	3615	3712	5819	9589	74%
OR 4	62 Lafayette Ave, Bronx NY 10462	Brooke Hayes	(247) 999-3394	Online Retailer	Yes	Yes	Yes	No	No	Yes	Yes	3297	4866	4928	8451	9585	31%
MB 10	267 Randall Mill Dr, New York NY 10033	Kathy Rogers	(939) 738-6471	Medium Business	Yes	Yes	No	Yes	Yes	Yes	No	570	1322	7279	8443	9571	102%
MB 9	861 Gonzales Lane, Bronx NY 10472	Mia Ang	(253) 861-1301	Medium Business	Yes	Yes	No	Yes	Yes	Yes	No	1779	2124	2844	6877	9570	52%
OR 5	7839 Elm St, Staten Island NY 10306	Lee Niemeyer	(920) 451-3973	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1092	3140	4123	4366	9482	72%
SB 4	2930 Southern Street, New York NY 10005	Susana Huels	(491) 505-6064	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	906	1251	2897	4499	9428	80%
OR 6	429 Stonybrook Dr, Brooklyn NY 11203	Stephen Harris	(258) 948-7479	Online Retailer	Yes	Yes	Yes	No	No	Yes	No	2541	3794	3984	8803	9338	38%
WD 7	65 Lower River Ave, Bronx NY 10465	Thomas Stewart	(381) 643-1230	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1082	3353	6351	8550	9272	71%
SB 14	8156 Lake View Street, New York, NY 10025	Debra Kroll	(628) 832-4986	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	861	1314	1810	6510	9271	81%
MB 3	9132 Redwood Rd, Bronx NY 10466	Christopher Evans	(831) 406-6300	Medium Business	Yes	Yes	No	Yes	No	Yes	No	700	5721	6247	8495	9236	91%
MB 1	9848 Linden St, New York NY 10011	Dan Hill	(248) 450-0797	Medium Business	Yes	Yes	No	No	No	No	No	3501	7079	7438	7443	9225	27%
OR 9	81 San Carlos Road, Bronx NY 10463	Dominique Johnson	(336) 448-7026	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	488	5535	5775	7661	9206	108%
SB 1	2131 Patterson Road, Brooklyn NY 11201	Dorothy Rizzo	(880) 283-6803	Small Business	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1982	5388	7063	7208	9093	46%
WD 2	815 2nd St, New York NY 10028	Craig Collins	(828) 840-2736	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	299	657	6238	8922	9081	135%
OR 14	81 Crescent St, Brooklyn NY 11210	Maria Sawyer	(881) 243-5276	Online Retailer	Yes	Yes	Yes	No	No	No	No	1290	4033	6956	7929	8834	62%
OR 1	77 Stillwater St, Brooklyn NY 11213	John Mackey	(831) 581-1892	Online Retailer	Yes	Yes	Yes	No	No	Yes	No	2519	3938	5190	8203	8780	37%
SB 6	7778 Cherry Road, Bronx NY 10467	Roy McGlynn	(594) 807-4187	Small Business	Yes	Yes	Yes	No	Yes	Yes	No	2341	6105	7777	7891	8758	39%
OR 2	7061 Bishop St, Yonkers NY 10701	Raymond Heywin	(571) 843-1746	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	No	138	286	6750	8254	8656	181%
MB 14	48 S. Brandywine St, New York NY 10002	Deshaun Fletcher	(845) 304-6511	Medium Business	Yes	Yes	No	Yes	No	Yes	No	712	4182	6087	7494	8599	86%
SB 13	9575 Shipley Court, Brooklyn NY 11201	Tim Young	(876) 653-1727	Small Business	Yes	No	Yes	Yes	Yes	Yes	Yes	24	1797	3548	3668	8592	335%
MB 12	240 W. Manhattan St, Bronx NY 10462	Mel Berkowitz	(967) 547-1542	Medium Business	Yes	Yes	No	Yes	Yes	Yes	No	209	621	3098	7118	8433	152%
OR 15	7217 Birch Hill Dr, New York NY 10009	Darnell Straughter	(680) 628-4625	Online Retailer	Yes	Yes	Yes	Yes	Yes	No	No	431	6231	7478	8039	8271	109%
MB 6	6 E. Nichols Ave, New York NY 10027	Anthony Brooks	(349) 801-7566	Medium Business	Yes	Yes	No	Yes	No	Yes	No	238	1235	1822	7074	8207	142%
WD 3	9875 Franklin Rd, Brooklyn NY 11223	Donna Lam	(931) 618-9558	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	1323	4963	6292	6728	8202	58%
MB 5	402 Bridgeton Lane, Bronx NY 10468	Bill Callahan	(617) 419-7996	Medium Business	Yes	Yes	No	Yes	No	Yes	No	73	3485	4592	5143	8100	225%
WD 15	174 Del Monte St, Brooklyn NY 11224	Anna Grey	(980) 437-1451	Wholesale Distributor	Yes	Yes	Yes	No	No	No	No	1014	2254	4534	6796	7730	66%
MB 2	805 South Pilgrim Court, Brooklyn NY 11225	Javier George	(964) 214-3742	Medium Business	Yes	Yes	No	No	No	No	No	3916	4218	5072	5201	7588	18%
OR 10	596 Coffee St, Bronx NY 10472	Larry Alaimo	(242) 869-1226	Online Retailer	Yes	Yes	Yes	Yes	Yes	Yes	Yes	376	889	4373	6803	7578	112%
SB 2	3685 Morningview Lane, New York NY 10013	Lawson Moore	(711) 426-7350	Small Business	Yes	Yes	Yes	No	Yes	Yes	No	2786	3804	4121	6210	6909	25%
OR 3	7223 Cedarwood Ave, Brooklyn NY 11221	Janie Roberson	(924) 516-6566	Online Retailer	Yes	Yes	Yes	No	No	Yes	Yes	8873	8484	7883	7499	6592	-7%
WD 14	9577 Nicolls Ave, Staten Island NY 10312	Kevin Fleming	(650) 848-8284	Wholesale Distributor	Yes	Yes	Yes	No	No	No	No	1032	3919	4466	5568	6476	58%
WD 11	419 E. Henry Ave, New York NY 10031	Carlos Jackson	(201) 363-0653	Wholesale Distributor	Yes	Yes	Yes	No	No	Yes	No	128	416	747	1028	6357	165%
SB 10	102 Coffee Court, Bronx NY 10461	Holly Gaines	(277) 456-4626	Small Business	Yes	Yes	No	Yes	No	Yes	No	1530	1620	2027	4881	6002	41%

sort by CAGR

sort by 2021



```
Sub SortByCAGRDesc()
'
' SortByCAGRDesc Macro
' this will sort the whole spreadsheet by CAGR desc
'
' Keyboard Shortcut: Ctrl+Shift+A
'
    Range(Selection, Selection.End(xlToRight)).Select
    Range(Selection, Selection.End(xlDown)).Select
    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Clear
    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Add Key:=Range("R4:R64") _
        , SortOn:=xlSortOnValues, Order:=xlDescending, DataOption:=xlSortNormal
    With ActiveWorkbook.Worksheets("Sheet1").Sort
        .SetRange Range("A4:R64")
        .Header = xlGuess
        .MatchCase = False
        .Orientation = xlTopToBottom
        .SortMethod = xlPinYin
        .Apply
    End With
End Sub
Sub SortBy2021Desc()
'
' SortBy2021Desc Macro
' this will sort the whole spreedsheet by 2021
'
' Keyboard Shortcut: Ctrl+Shift+B
'
    Range(Selection, Selection.End(xlToRight)).Select
    Range(Selection, Selection.End(xlDown)).Select
    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Clear
    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Add Key:=Range("Q5:Q64") _
        , SortOn:=xlSortOnValues, Order:=xlDescending, DataOption:=xlSortNormal
    With ActiveWorkbook.Worksheets("Sheet1").Sort
        .SetRange Range("A4:R64")
        .Header = xlYes
        .MatchCase = False
        .Orientation = xlTopToBottom
        .SortMethod = xlPinYin
        .Apply
    End With
End Sub
```

Task Four
(background)

Build a data visualisation dashboard using charts in Excel.

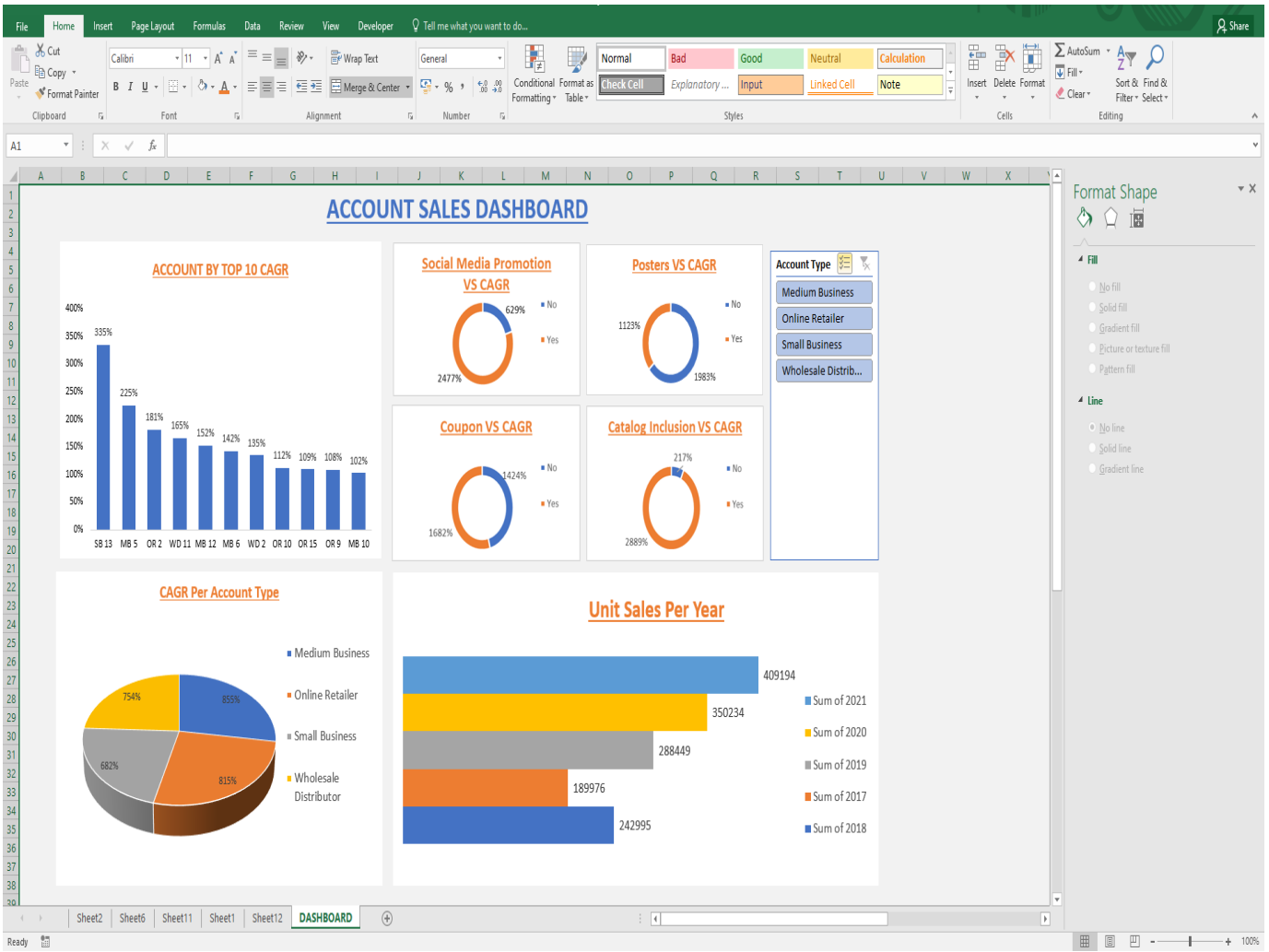
To make data-driven business decisions, the decision-makers need an easy way to understand and draw conclusions about insights from your data and analysis. Insights can be financial, operational, or related to any other management need. One of the easiest ways to make such insights quickly understandable is by using charts or graphs of the data and your analysis of it.

Business decisions that need the same insights routinely benefit from an interactive or dynamic combination of charts called a dashboard. Dashboards allow you to see different views or "slices" of the data, see how different insights relate to each other and gain a complete picture of what the data is saying. This is particularly helpful when making operational decisions like which products to market more or differently, which accounts need more sales activity to drive more sales, or which products need better inventory management to keep in stock. A dashboard is simply a collection of related charts on one page to make visualizing the data easier

TASK-

Make your data an Excel table (rather than a range). Remember the shortcut for that? It is Ctrl-T. Some of Excel's more useful capabilities work with data designated as a Table in Excel, including dynamic updating of charts and graphs and much of the pivot table functionality. It is a best practice to use Excel Tables when doing data analysis.

Be creative! Your dashboard will almost certainly look different than the Model Answer below. You will likely have chosen different ways to look at the data and combine those charts into your dashboard. The important part of this exercise is to begin thinking in the mindset of using dashboards to tell the story of your data and support the data-driven business decisions that relate to the data.



Task Five
(background)

Communicate your analysis and insights using PowerPoint to tell a data-driven story.

> Consider the following two statements that communicate data:
>
> 1. Eastern Region sales dropped 4% year over year.
> 2. Our Sales Rewards trip to the Bahamas this summer is in danger of being canceled because our team has underperformed our Eastern Region sales growth target by 9% this year!
>
> Which statement is more compelling? Which statement motivates the reader to want to take action? Data is good, but a narrative or story told with the data is always better.
>
> Telling a data-driven narrative allows you to directly link the issue you want to address, the insights useful to address the issue, and the action or decision you want the reader or listener to

take. This linkage depends on the listener's emotional connection to the story. The data alone does not convey an emotional connection; the narrative does that.

Telling a story with your data makes it easier to build trust, convey meaningful insight, and drive audience engagement.

Follow certain best practices when telling a data-driven story:

- **Understand your audience.** Who are you communicating with? What are their motivations and needs? What will they find compelling?
- **Focus on a few major points.** Keep your messaging clear and concise, so it's memorable.
- **Set the context for your story.** Why do your insights matter? Why should the audience care?
- **Actually write a story.** Stories include what is commonly called a story arc: a setup, a tension or issue, a resolution, and/or a call to action.
- **Use visuals where possible.** Tables of numbers are hard to make compelling.
- **Support your credibility as the storyteller.** Be honest about data quality issues, missing insights that are needed, and related risks to the action or decision you are seeking.
-

TASK-

write your presentation using the template found in Additional Resources below. Feel free to add slides to the template if needed, but remember: *clear*, *concise*, and *compelling*. Shorter is almost always better. In no more than 3-5 slides,

1. Write a compelling title to grab the attention of your audience.
2. Convey a key, overarching point using a compelling visual you find online to further grab your reader's attention. Just copy and paste a photo that you find online; no need for original artwork.
3. Communicate key points and ideas about your account sales analysis, including sales performance (or lack thereof), opportunities for improvement or operational focus, and any other points you think tell a good data-driven story.
4. Make a recommendation for an action that your audience should take as a result of your analysis of account sales.

PPT attached-