



Maven Market Project

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MAVEN
MARKET

Mục lục

- 01** **Tổng quan dự án**
- 02** **Xử lý, làm sạch data**
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01. Tổng quan dự án

Maven Market – một công ty đa quốc gia với các cửa hàng tiện lợi ở Canada, Mexico và United States

Về bộ dữ liệu:

+ Gồm 8 files:

- 2 bảng Fact
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 MavenMarket_Calendar	5/29/2024 8:35 PM	Microsoft Excel Co...	8 KB
 MavenMarket_Customers	5/29/2024 8:35 PM	Microsoft Excel Co...	1,540 KB
 MavenMarket_Products	5/29/2024 8:35 PM	Microsoft Excel Co...	102 KB
 MavenMarket_Regions	5/29/2024 8:35 PM	Microsoft Excel Co...	3 KB
 MavenMarket_Returns_1997-1998	5/29/2024 8:35 PM	Microsoft Excel Co...	139 KB
 MavenMarket_Stores	5/29/2024 8:35 PM	Microsoft Excel Co...	3 KB

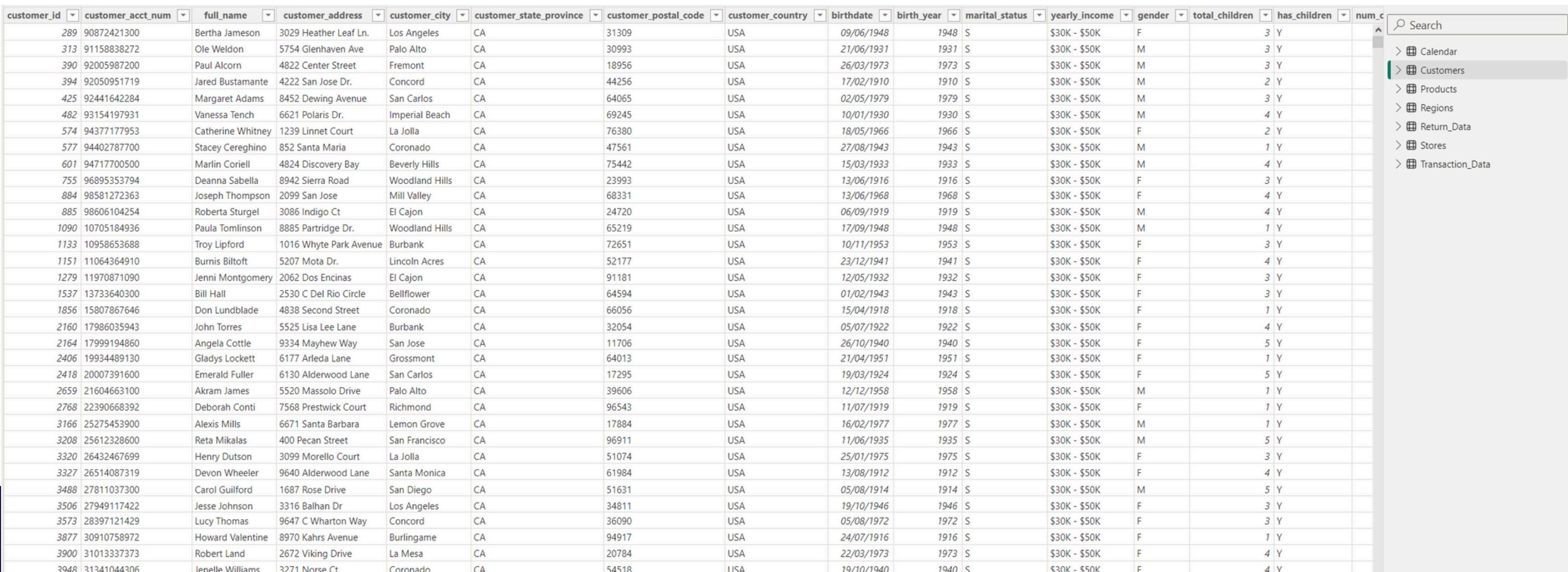
 MavenMarket_Transactions_1997	5/29/2024 8:35 PM	Microsoft Excel Co...	2,960 KB
 MavenMarket_Transactions_1998	5/29/2024 8:35 PM	Microsoft Excel Co...	6,214 KB

02. Connect và xử lý data

file MavenMarket_Customers

Đổi tên bảng là "**Customers**"

- Đảm bảo data type cho mỗi trường
- Thêm cột mới tên là "**full_name**"
- Tạo cột mới tên là "birth_year" để thể hiện năm sinh
- Tạo một cột là "**has_children**", kết quả là "N" nếu "**total_children**" = 0, còn lại là "Y"



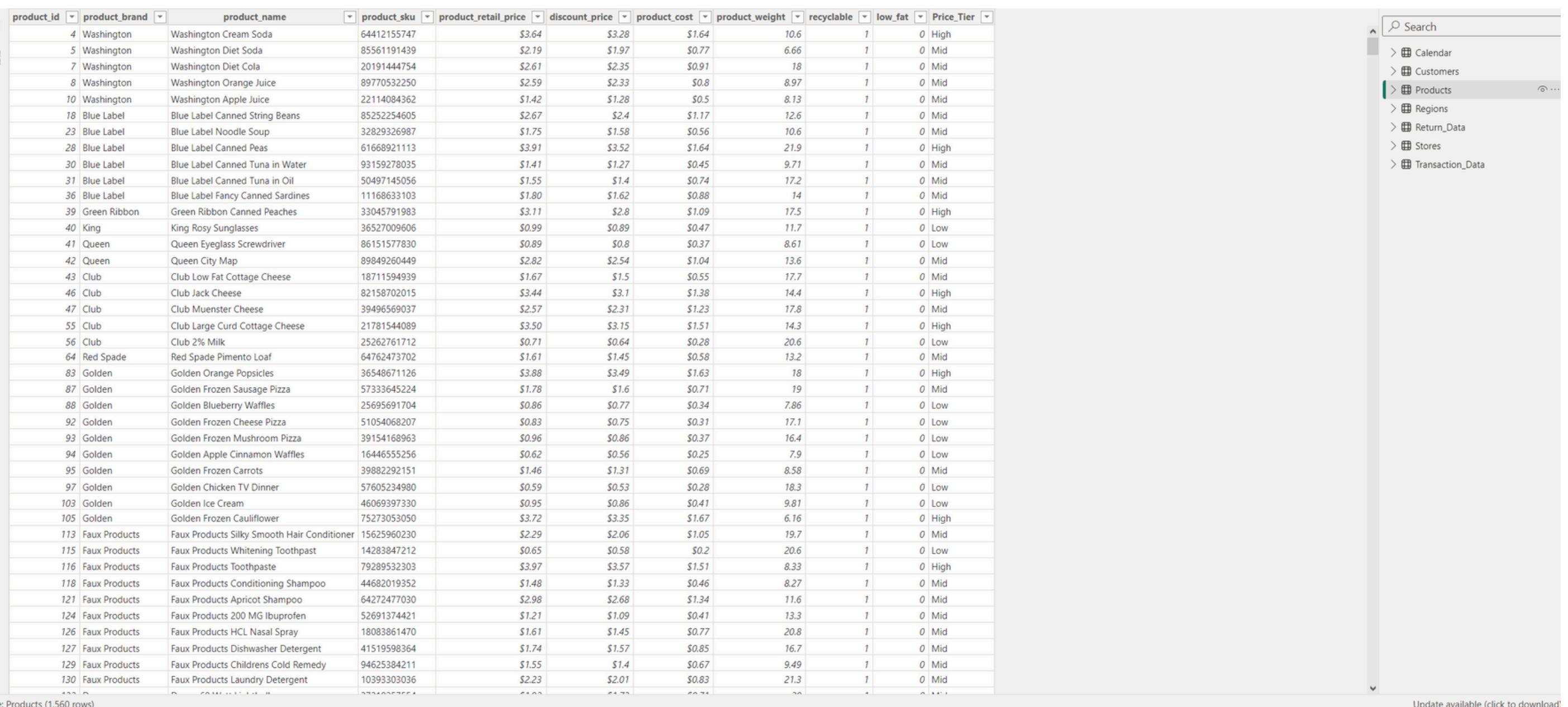
customer_id	customer_acct_num	full_name	customer_address	customer_city	customer_state_province	customer_postal_code	customer_country	birthdate	birth_year	marital_status	yearly_income	gender	total_children	has_children	num_c
289	90872421300	Bertha Jameson	3029 Heather Leaf Ln.	Los Angeles	CA	31309	USA	09/06/1948	1948	S	\$30K - \$50K	F		3	Y
313	91158838272	Ole Weldon	5754 Glenhaven Ave	Palo Alto	CA	30993	USA	21/06/1931	1931	S	\$30K - \$50K	M		3	Y
390	92005987200	Paul Alcorn	4822 Center Street	Fremont	CA	18956	USA	26/03/1973	1973	S	\$30K - \$50K	M		3	Y
394	92050951719	Jared Bustamante	4222 San Jose Dr.	Concord	CA	44256	USA	17/02/1910	1910	S	\$30K - \$50K	M		2	Y
425	92441642284	Margaret Adams	8452 Dewing Avenue	San Carlos	CA	64065	USA	02/05/1979	1979	S	\$30K - \$50K	M		3	Y
482	93154197931	Vanessa Tench	6621 Polaris Dr.	Imperial Beach	CA	69245	USA	10/01/1930	1930	S	\$30K - \$50K	M		4	Y
574	94377177953	Catherine Whitney	1239 Linnet Court	La Jolla	CA	76380	USA	18/05/1966	1966	S	\$30K - \$50K	F		2	Y
577	94402787700	Stacey Cereghino	852 Santa Maria	Coronado	CA	47561	USA	27/08/1943	1943	S	\$30K - \$50K	M		1	Y
601	94717700500	Marlin Coriell	4824 Discovery Bay	Beverly Hills	CA	75442	USA	15/03/1933	1933	S	\$30K - \$50K	M		4	Y
755	96895353794	Deanna Sabella	8942 Sierra Road	Woodland Hills	CA	23993	USA	13/06/1916	1916	S	\$30K - \$50K	F		3	Y
884	98581272363	Joseph Thompson	2099 San Jose	Mill Valley	CA	68331	USA	13/06/1968	1968	S	\$30K - \$50K	F		4	Y
885	98606104254	Roberta Sturgel	3086 Indigo Ct	El Cajon	CA	24720	USA	06/09/1919	1919	S	\$30K - \$50K	M		4	Y
1090	10705184936	Paula Tomlinson	8885 Partridge Dr.	Woodland Hills	CA	65219	USA	17/09/1948	1948	S	\$30K - \$50K	M		1	Y
1133	10958653688	Troy Lipford	1016 Whyte Park Avenue	Burbank	CA	72651	USA	10/11/1953	1953	S	\$30K - \$50K	F		3	Y
1151	11064364910	Burnis Biltoft	5207 Mota Dr.	Lincoln Acres	CA	52177	USA	23/12/1941	1941	S	\$30K - \$50K	F		4	Y
1279	11970871090	Jenni Montgomery	2062 Dos Encinas	El Cajon	CA	91181	USA	12/05/1932	1932	S	\$30K - \$50K	F		3	Y
1537	13733640300	Bill Hall	2530 C Del Rio Circle	Bellflower	CA	64594	USA	01/02/1943	1943	S	\$30K - \$50K	F		3	Y
1856	15807867646	Don Lundblade	4838 Second Street	Coronado	CA	66056	USA	15/04/1918	1918	S	\$30K - \$50K	F		1	Y
2160	17986035943	John Torres	5525 Lisa Lee Lane	Burbank	CA	32054	USA	05/07/1922	1922	S	\$30K - \$50K	F		4	Y
2164	17999194860	Angela Cottle	9334 Mayhew Way	San Jose	CA	11706	USA	26/10/1940	1940	S	\$30K - \$50K	F		5	Y
2406	19934489130	Gladys Lockett	6177 Arleda Lane	Grossmont	CA	64013	USA	21/04/1951	1951	S	\$30K - \$50K	F		1	Y
2418	20007391600	Emerald Fuller	6130 Alderwood Lane	San Carlos	CA	17295	USA	19/03/1924	1924	S	\$30K - \$50K	F		5	Y
2659	21604663100	Akram James	5520 Massolo Drive	Palo Alto	CA	39606	USA	12/12/1958	1958	S	\$30K - \$50K	M		1	Y
2768	22390668392	Deborah Conti	7568 Prestwick Court	Richmond	CA	96543	USA	11/07/1919	1919	S	\$30K - \$50K	F		1	Y
3166	25275453900	Alexis Mills	6671 Santa Barbara	Lemon Grove	CA	17884	USA	16/02/1977	1977	S	\$30K - \$50K	M		1	Y
3208	25612328600	Reta Mikalas	400 Pecan Street	San Francisco	CA	96911	USA	11/06/1935	1935	S	\$30K - \$50K	M		5	Y
3320	26432467699	Henry Dutson	3099 Morello Court	La Jolla	CA	51074	USA	25/01/1975	1975	S	\$30K - \$50K	F		3	Y
3327	26514087319	Devon Wheeler	9640 Alderwood Lane	Santa Monica	CA	61984	USA	13/08/1912	1912	S	\$30K - \$50K	F		4	Y
3488	27811037300	Carol Guilford	1687 Rose Drive	San Diego	CA	51631	USA	05/08/1914	1914	S	\$30K - \$50K	M		5	Y
3506	27949117422	Jesse Johnson	3316 Balhan Dr	Los Angeles	CA	34811	USA	19/10/1946	1946	S	\$30K - \$50K	F		3	Y
3573	28397121429	Lucy Thomas	9647 C Wharton Way	Concord	CA	36090	USA	05/08/1972	1972	S	\$30K - \$50K	F		3	Y
3877	30910758972	Howard Valentine	8970 Kahrs Avenue	Burlingame	CA	94917	USA	24/07/1916	1916	S	\$30K - \$50K	F		1	Y
3900	31013337373	Robert Land	2672 Viking Drive	La Mesa	CA	20784	USA	22/03/1973	1973	S	\$30K - \$50K	F		4	Y
3948	31341044306	Jenelle Williams	3271 Norse Ct	Coronado	CA	54518	USA	19/10/1940	1940	S	\$30K - \$50K	F		4	Y

02. Connect và xử lý data

file MavenMarket_Products

Đổi tên bảng là "**Products**"

- Đảm bảo data type cho mỗi trường
- Thêm một cột tên là "discount_price", bằng 90% của original retail price
- Tính giá trị trung bình của retail price theo brand, và đặt tên cột là "**Avg Retail Price**"
- Thay thế các giá trị "null" bằng 0 trong cột "recyclable" và "low-fat"



The screenshot shows a data analysis interface with a large table on the left and a sidebar on the right.

Table Data:

product_id	product_brand	product_name	product_sku	product_retail_price	discount_price	product_cost	product_weight	recyclable	low_fat	Price_Tier
4	Washington	Washington Cream Soda	64412155747	\$3.64	\$3.28	\$1.64	10.6	1	0	High
5	Washington	Washington Diet Soda	85561191439	\$2.19	\$1.97	\$0.77	6.66	1	0	Mid
7	Washington	Washington Diet Cola	20191444754	\$2.61	\$2.35	\$0.91	18	1	0	Mid
8	Washington	Washington Orange Juice	89770532250	\$2.59	\$2.33	\$0.8	8.97	1	0	Mid
10	Washington	Washington Apple Juice	22114084362	\$1.42	\$1.28	\$0.5	8.13	1	0	Mid
18	Blue Label	Blue Label Canned String Beans	85252254605	\$2.67	\$2.4	\$1.17	12.6	1	0	Mid
23	Blue Label	Blue Label Noodle Soup	32829326987	\$1.75	\$1.58	\$0.56	10.6	1	0	Mid
28	Blue Label	Blue Label Canned Peas	61668921113	\$3.91	\$3.52	\$1.64	21.9	1	0	High
30	Blue Label	Blue Label Canned Tuna in Water	93159278035	\$1.41	\$1.27	\$0.45	9.71	1	0	Mid
31	Blue Label	Blue Label Canned Tuna in Oil	50497145056	\$1.55	\$1.4	\$0.74	17.2	1	0	Mid
36	Blue Label	Blue Label Fancy Canned Sardines	11168633103	\$1.80	\$1.62	\$0.88	14	1	0	Mid
39	Green Ribbon	Green Ribbon Canned Peaches	33045791983	\$3.11	\$2.8	\$1.09	17.5	1	0	High
40	King	King Rosy Sunglasses	36527009606	\$0.99	\$0.89	\$0.47	11.7	1	0	Low
41	Queen	Queen Eyeglass Screwdriver	86151577830	\$0.89	\$0.8	\$0.37	8.61	1	0	Low
42	Queen	Queen City Map	89849260449	\$2.82	\$2.54	\$1.04	13.6	1	0	Mid
43	Club	Club Low Fat Cottage Cheese	18711594939	\$1.67	\$1.5	\$0.55	17.7	1	0	Mid
46	Club	Club Jack Cheese	82158702015	\$3.44	\$3.1	\$1.38	14.4	1	0	High
47	Club	Club Muenster Cheese	39496569037	\$2.57	\$2.31	\$1.23	17.8	1	0	Mid
55	Club	Club Large Curd Cottage Cheese	21781544089	\$3.50	\$3.15	\$1.51	14.3	1	0	High
56	Club	Club 2% Milk	25262761712	\$0.71	\$0.64	\$0.28	20.6	1	0	Low
64	Red Spade	Red Spade Pimento Loaf	64762473702	\$1.61	\$1.45	\$0.58	13.2	1	0	Mid
83	Golden	Golden Orange Popsicles	36548671126	\$3.88	\$3.49	\$1.63	18	1	0	High
87	Golden	Golden Frozen Sausage Pizza	57333645224	\$1.78	\$1.6	\$0.71	19	1	0	Mid
88	Golden	Golden Blueberry Waffles	25695691704	\$0.86	\$0.77	\$0.34	7.86	1	0	Low
92	Golden	Golden Frozen Cheese Pizza	51054068207	\$0.83	\$0.75	\$0.31	17.1	1	0	Low
93	Golden	Golden Frozen Mushroom Pizza	39154168963	\$0.96	\$0.86	\$0.37	16.4	1	0	Low
94	Golden	Golden Apple Cinnamon Waffles	16446555256	\$0.62	\$0.56	\$0.25	7.9	1	0	Low
95	Golden	Golden Frozen Carrots	39882292151	\$1.46	\$1.31	\$0.69	8.58	1	0	Mid
97	Golden	Golden Chicken TV Dinner	57605234980	\$0.59	\$0.53	\$0.28	18.3	1	0	Low
103	Golden	Golden Ice Cream	46069397330	\$0.95	\$0.86	\$0.41	9.81	1	0	Low
105	Golden	Golden Frozen Cauliflower	75273053050	\$3.72	\$3.35	\$1.67	6.16	1	0	High
113	Faux Products	Faux Products Silky Smooth Hair Conditioner	15625960230	\$2.29	\$2.06	\$1.05	19.7	1	0	Mid
115	Faux Products	Faux Products Whitening Toothpast	14283847212	\$0.65	\$0.58	\$0.2	20.6	1	0	Low
116	Faux Products	Faux Products Toothpaste	79289532303	\$3.97	\$3.57	\$1.51	8.33	1	0	High
118	Faux Products	Faux Products Conditioning Shampoo	44682019352	\$1.48	\$1.33	\$0.46	8.27	1	0	Mid
121	Faux Products	Faux Products Apricot Shampoo	64272477030	\$2.98	\$2.68	\$1.34	11.6	1	0	Mid
124	Faux Products	Faux Products 200 MG Ibuprofen	52691374421	\$1.21	\$1.09	\$0.41	13.3	1	0	Mid
126	Faux Products	Faux Products HCL Nasal Spray	18083861470	\$1.61	\$1.45	\$0.77	20.8	1	0	Mid
127	Faux Products	Faux Products Dishwasher Detergent	41519598364	\$1.74	\$1.57	\$0.85	16.7	1	0	Mid
129	Faux Products	Faux Products Childrens Cold Remedy	94625384211	\$1.55	\$1.4	\$0.67	9.49	1	0	Mid
130	Faux Products	Faux Products Laundry Detergent	10393303036	\$2.23	\$2.01	\$0.83	21.3	1	0	Mid

Note: Products (1,560 rows)

Update available (click to download)

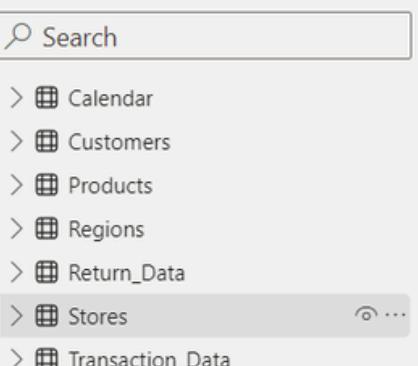
02. Connect và xử lý data

file MavenMarket_Stores

Đổi tên bảng là "**Stores**"

- Thêm cột mới tên là "**full_address**"
- Thêm cột mới tên là "**area_code**"

store_id	region_id	store_type	store_name	store_street_address	store_city	store_state	store_country	full_address	store_phone	area_code	first_opened_date	last_remodel_date	total_sqft	grocery_sqft	Years_Since_Remodel
1	28	Supermarket	Store 1	2853 Bailey Rd	Acapulco	Guerrero	Mexico	Acapulco, Guerrero, Mexico	262-555-5124	262	09/01/1982	05/12/1990	23593	17475	34
2	78	Small Grocery	Store 2	5203 Catanzaro Way	Bellingham	WA	USA	Bellingham, WA, USA	605-555-8203	605	02/04/1970	04/06/1973	28206	22271	51
3	76	Supermarket	Store 3	1501 Ramsey Circle	Bremerton	WA	USA	Bremerton, WA, USA	509-555-1596	509	14/06/1959	19/11/1967	39696	24390	57
4	27	Gourmet Supermarket	Store 4	433 St George Dr	Camacho	Zacatecas	Mexico	Camacho, Zacatecas, Mexico	304-555-1474	304	27/09/1994	01/12/1995	23759	16844	29
5	4	Small Grocery	Store 5	1250 Coggins Drive	Guadalajara	Jalisco	Mexico	Guadalajara, Jalisco, Mexico	801-555-4324	801	18/09/1978	29/06/1991	24597	15012	33
6	47	Gourmet Supermarket	Store 6	5495 Mitchell Canyon Road	Beverly Hills	CA	USA	Beverly Hills, CA, USA	958-555-5002	958	03/01/1981	13/03/1991	23688	15337	33
7	3	Supermarket	Store 7	1077 Wharf Drive	Los Angeles	CA	USA	Los Angeles, CA, USA	477-555-7967	477	21/05/1971	20/10/1981	23598	14210	43
8	26	Deluxe Supermarket	Store 8	3173 Buena Vista Ave	Merida	Yucatan	Mexico	Merida, Yucatan, Mexico	797-555-3417	797	23/09/1958	18/11/1967	30797	20141	57
9	2	Mid-Size Grocery	Store 9	1872 El Pintado Road	Mexico City	DF	Mexico	Mexico City, DF, Mexico	439-555-3524	439	18/03/1955	07/06/1959	36509	22450	65
10	24	Supermarket	Store 10	7894 Rotherham Dr	Orizaba	Veracruz	Mexico	Orizaba, Veracruz, Mexico	212-555-4774	212	13/04/1979	30/01/1982	34791	26354	42
11	22	Supermarket	Store 11	5371 Holland Circle	Portland	OR	USA	Portland, OR, USA	685-555-8995	685	17/09/1976	15/05/1982	20319	16232	42
12	25	Deluxe Supermarket	Store 12	1120 Westchester Pl	Hidalgo	Zacatecas	Mexico	Hidalgo, Zacatecas, Mexico	151-555-1702	151	25/03/1968	18/12/1993	30584	21938	31
13	23	Deluxe Supermarket	Store 13	5179 Valley Ave	Salem	OR	USA	Salem, OR, USA	977-555-2724	977	13/04/1957	10/11/1997	27694	18670	27
14	1	Small Grocery	Store 14	4365 Indigo Ct	San Francisco	CA	USA	San Francisco, CA, USA	135-555-4888	135	24/11/1957	07/01/1958	22478	15321	66
15	18	Supermarket	Store 15	5006 Highland Drive	Seattle	WA	USA	Seattle, WA, USA	893-555-1024	893	24/07/1969	19/10/1973	21215	13305	51
16	87	Supermarket	Store 16	5922 La Salle Ct	Spokane	WA	USA	Spokane, WA, USA	643-555-3645	643	23/08/1974	13/07/1977	30268	22063	47
17	84	Deluxe Supermarket	Store 17	490 Risdon Road	Tacoma	WA	USA	Tacoma, WA, USA	855-555-5581	855	30/05/1970	23/06/1976	33858	22123	48
18	25	Mid-Size Grocery	Store 18	6764 Glen Road	Hidalgo	Zacatecas	Mexico	Hidalgo, Zacatecas, Mexico	528-555-8317	528	28/06/1969	30/08/1975	38382	30351	49
19	5	Deluxe Supermarket	Store 19	6644 Sudance Drive	Vancouver	BC	Canada	Vancouver, BC, Canada	862-555-7395	862	27/03/1977	25/10/1990	23112	16418	34
20	6	Mid-Size Grocery	Store 20	3706 Marvelle Ln	Victoria	BC	Canada	Victoria, BC, Canada	897-555-1931	897	06/02/1980	09/04/1987	34452	27463	37
21	106	Deluxe Supermarket	Store 21	4093 Steven Circle	San Andres	DF	Mexico	San Andres, DF, Mexico	493-555-4781	493	07/02/1986	16/04/1990	32717	25453	34
22	88	Small Grocery	Store 22	9606 Julpum Loop	Walla Walla	WA	USA	Walla Walla, WA, USA	881-555-5117	881	24/01/1951	17/10/1969	35918	24837	55
23	89	Mid-Size Grocery	Store 23	3920 Noah Court	Yakima	WA	USA	Yakima, WA, USA	170-555-8424	170	16/07/1977	24/07/1987	29182	19283	37
24	7	Supermarket	Store 24	2342 Waltham St.	San Diego	CA	USA	San Diego, CA, USA	111-555-0303	111	22/05/1979	20/04/1986	27372	18293	38



02. Connect và xử lý data

file MavenMarket_Regions

Đổi tên bảng là "Regions"

- Đảm bảo data type

region_id	sales_district	sales_region
1	San Francisco	Central West
2	Mexico City	Mexico Central
3	Los Angeles	South West
4	Guadalajara	Mexico West
5	Vancouver	Canada West
6	Victoria	Canada West
7	San Diego	South West
8	San Diego	South West
9	San Diego	South West
10	San Diego	South West
11	San Diego	South West
12	San Diego	South West
13	San Diego	South West
14	San Diego	South West
15	San Diego	South West
16	San Diego	South West
17	San Diego	South West
18	Seattle	North West
19	Seattle	North West
20	Seattle	North West
21	Seattle	North West
22	Portland	North West
23	Salem	North West
24	Orizaba	Mexico Central
25	Hidalgo	Mexico Central
26	Marida	Mexico South
27	Camacho	Mexico Central
28	Acapulco	Mexico West
29	Acapulco	Mexico West
30	Tlaxiaco	Mexico South
31	San Francisco	Central West
32	San Francisco	Central West
33	San Diego	South West
34	San Francisco	Central West
35	San Francisco	Central West
36	San Francisco	Central West
37	San Francisco	Central West
38	San Francisco	Central West
39	San Francisco	Central West
40	San Francisco	Central West
41	San Francisco	Central West

file MavenMarket_Returns

Đổi tên bảng là "Return_Data"

- Đảm bảo data type

return_date	product_id	store_id	quantity
07/01/1997	310	13	1
07/01/1997	418	13	1
07/01/1997	599	13	1
07/01/1997	638	13	1
07/01/1997	1078	13	1
11/01/1997	75	13	1
11/01/1997	107	13	1
11/01/1997	189	13	1
11/01/1997	391	13	1
11/01/1997	475	13	1
11/01/1997	569	13	1
11/01/1997	590	13	1
11/01/1997	804	13	1
11/01/1997	959	13	1
11/01/1997	992	13	1
11/01/1997	1046	13	1
11/01/1997	1049	13	1
11/01/1997	1063	13	1
11/01/1997	1226	13	1
11/01/1997	1319	13	1
11/01/1997	1393	13	1
11/01/1997	1404	13	1
11/01/1997	1445	13	1
20/01/1997	100	13	1
20/01/1997	271	13	1
20/01/1997	784	13	1
20/01/1997	1218	13	1
20/01/1997	1220	13	1
20/01/1997	1402	13	1
21/01/1997	651	13	1
21/01/1997	851	13	1
21/01/1997	921	13	1
21/01/1997	952	13	1
23/01/1997	179	13	1
23/01/1997	328	13	1
23/01/1997	688	13	1
23/01/1997	1549	13	1
03/02/1997	196	13	1
03/02/1997	900	13	1
03/02/1997	1067	13	1
03/02/1997	1351	13	1
22/02/1997	175	13	1

Return_Data (7,087 rows)

02. Connect và xử lý data

file MavenMarket_Calendar

Đổi tên bảng là "Calendar"

- Tạo các cột mới:
- Start of Week (starting Sunday)
- Name of Day
- Start of Month
- Name of Month
- Quarter of Year
- Year

date	Start of Week	Day Name	Start of Month	Month Name	Quarter	Year	Weekend	End of Month
01/07/1997	05/07/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997
02/07/1997	05/07/1997	Wednesday	01/07/1997	July	3	1997	N	7/31/1997
03/07/1997	05/07/1997	Thursday	01/07/1997	July	3	1997	N	7/31/1997
04/07/1997	05/07/1997	Friday	01/07/1997	July	3	1997	N	7/31/1997
05/07/1997	05/07/1997	Saturday	01/07/1997	July	3	1997	Y	7/31/1997
06/07/1997	12/07/1997	Sunday	01/07/1997	July	3	1997	Y	7/31/1997
07/07/1997	12/07/1997	Monday	01/07/1997	July	3	1997	N	7/31/1997
08/07/1997	12/07/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997
09/07/1997	12/07/1997	Wednesday	01/07/1997	July	3	1997	N	7/31/1997
10/07/1997	12/07/1997	Thursday	01/07/1997	July	3	1997	N	7/31/1997
11/07/1997	12/07/1997	Friday	01/07/1997	July	3	1997	N	7/31/1997
12/07/1997	12/07/1997	Saturday	01/07/1997	July	3	1997	Y	7/31/1997
13/07/1997	19/07/1997	Sunday	01/07/1997	July	3	1997	Y	7/31/1997
14/07/1997	19/07/1997	Monday	01/07/1997	July	3	1997	N	7/31/1997
15/07/1997	19/07/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997
16/07/1997	19/07/1997	Wednesday	01/07/1997	July	3	1997	N	7/31/1997
17/07/1997	19/07/1997	Thursday	01/07/1997	July	3	1997	N	7/31/1997
18/07/1997	19/07/1997	Friday	01/07/1997	July	3	1997	N	7/31/1997
19/07/1997	19/07/1997	Saturday	01/07/1997	July	3	1997	Y	7/31/1997
20/07/1997	26/07/1997	Sunday	01/07/1997	July	3	1997	Y	7/31/1997
21/07/1997	26/07/1997	Monday	01/07/1997	July	3	1997	N	7/31/1997
22/07/1997	26/07/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997
23/07/1997	26/07/1997	Wednesday	01/07/1997	July	3	1997	N	7/31/1997
24/07/1997	26/07/1997	Thursday	01/07/1997	July	3	1997	N	7/31/1997
25/07/1997	26/07/1997	Friday	01/07/1997	July	3	1997	N	7/31/1997
26/07/1997	26/07/1997	Saturday	01/07/1997	July	3	1997	Y	7/31/1997
27/07/1997	02/08/1997	Sunday	01/07/1997	July	3	1997	Y	7/31/1997
28/07/1997	02/08/1997	Monday	01/07/1997	July	3	1997	N	7/31/1997
29/07/1997	02/08/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997
30/07/1997	02/08/1997	Wednesday	01/07/1997	July	3	1997	N	7/31/1997
31/07/1997	02/08/1997	Thursday	01/07/1997	July	3	1997	N	7/31/1997
01/08/1997	02/08/1997	Friday	01/08/1997	August	3	1997	N	8/31/1997
02/08/1997	02/08/1997	Saturday	01/08/1997	August	3	1997	Y	8/31/1997
03/08/1997	09/08/1997	Sunday	01/08/1997	August	3	1997	Y	8/31/1997
04/08/1997	09/08/1997	Monday	01/08/1997	August	3	1997	N	8/31/1997
05/08/1997	09/08/1997	Tuesday	01/08/1997	August	3	1997	N	8/31/1997
06/08/1997	09/08/1997	Wednesday	01/08/1997	August	3	1997	N	8/31/1997
07/08/1997	09/08/1997	Thursday	01/08/1997	August	3	1997	N	8/31/1997
08/08/1997	09/08/1997	Friday	01/08/1997	August	3	1997	N	8/31/1997
09/08/1997	09/08/1997	Saturday	01/08/1997	August	3	1997	Y	8/31/1997
10/08/1997	16/08/1997	Sunday	01/08/1997	August	3	1997	Y	8/31/1997
11/08/1997	16/08/1997	Monday	01/08/1997	August	3	1997	N	8/31/1997

Calendar (730 rows)

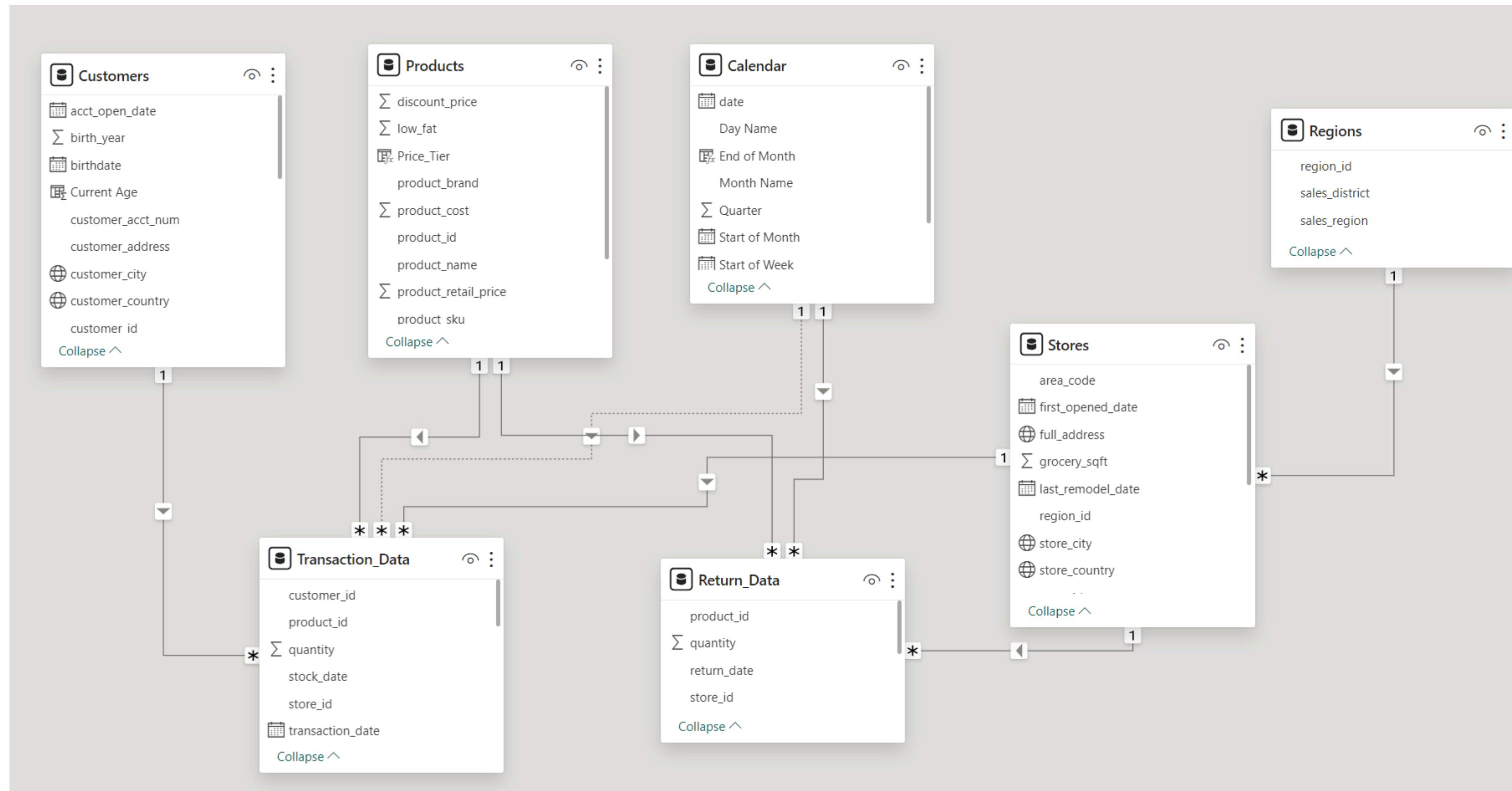
02. Connect và xử lý data

Tạo mới folder MavenMarket Transactions

- Bao gồm 2 file:
- MavenMarket_Transactions_1997
- MavenMarket_Transactions_1998
- Combine 02 file này
- Đặt tên bảng là "**Transaction_Data**"

transaction_date	stock_date	product_id	customer_id	store_id	quantity
27/07/1997	25/07/1997	721	1954	13	
27/07/1997	25/07/1997	1374	4342	13	
27/07/1997	25/07/1997	832	545	13	
27/07/1997	25/07/1997	690	6686	13	
27/07/1997	25/07/1997	952	6686	13	
27/07/1997	25/07/1997	497	5855	13	
27/07/1997	25/07/1997	1339	5610	13	
27/07/1997	25/07/1997	1156	5610	13	
27/07/1997	25/07/1997	427	7496	13	
27/07/1997	25/07/1997	1156	950	13	
27/07/1997	25/07/1997	464	9495	13	
27/07/1997	25/07/1997	1374	790	13	
27/07/1997	25/07/1997	1550	9286	13	
27/07/1997	25/07/1997	765	1468	13	
27/07/1997	25/07/1997	765	1954	13	
27/07/1997	25/07/1997	106	1954	13	
27/07/1997	25/07/1997	1435	9501	13	
27/07/1997	25/07/1997	623	3548	13	
27/07/1997	25/07/1997	812	7416	13	
27/07/1997	25/07/1997	294	1429	13	
27/07/1997	25/07/1997	1163	1429	13	
27/07/1997	25/07/1997	58	7359	13	
27/07/1997	25/07/1997	198	6713	13	
27/07/1997	25/07/1997	529	3979	13	
27/07/1997	25/07/1997	1518	1991	13	
27/07/1997	25/07/1997	615	1991	13	
27/07/1997	25/07/1997	1039	1426	13	
27/07/1997	25/07/1997	328	993	13	
27/07/1997	25/07/1997	1019	3001	13	
27/07/1997	25/07/1997	1308	8291	13	
27/07/1997	25/07/1997	383	8291	13	
27/07/1997	25/07/1997	1225	8291	13	
27/07/1997	25/07/1997	835	619	13	
27/07/1997	25/07/1997	1491	3728	13	
27/07/1997	25/07/1997	24	5924	13	
27/07/1997	25/07/1997	1239	3243	13	
27/07/1997	25/07/1997	800	8668	13	
27/07/1997	25/07/1997	1452	3748	13	
27/07/1997	25/07/1997	455	8367	13	
27/07/1997	25/07/1997	954	1718	13	
27/07/1997	25/07/1997	721	4659	13	
27/07/1997	25/07/1997	1010	446	13	

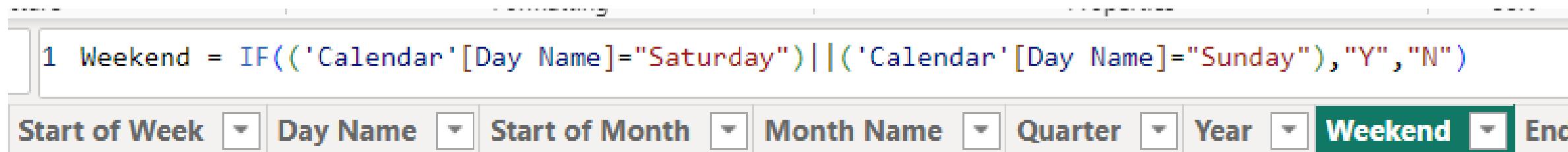
03. Data Modelling



04. Sử dụng DAX - Calculated Columns

Bảng Calender

- Thêm cột “**Weekend**”, trả về “Y” nếu là Saturdays hoặc Sunday, còn lại “N”

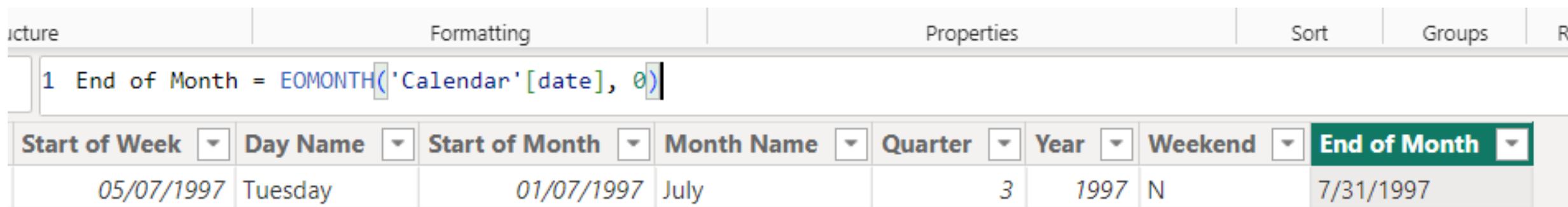


The screenshot shows the Power BI Data Editor interface. A new calculated column named 'Weekend' is being defined. The formula is:

```
1 Weekend = IF('Calendar'[Day Name] = "Saturday" || ('Calendar'[Day Name] = "Sunday"), "Y", "N")
```

The columns in the table are: Start of Week, Day Name, Start of Month, Month Name, Quarter, Year, Weekend, and End. The 'Weekend' column is highlighted in green.

- Trả về kết quả là ngày cuối cùng của tháng



The screenshot shows the Power BI Data Editor interface. A new calculated column named 'End of Month' is being defined. The formula is:

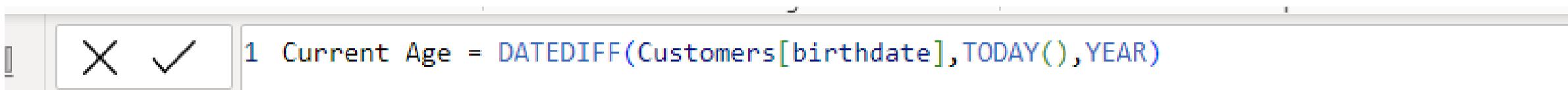
```
1 End of Month = EOMONTH('Calendar'[date], 0)
```

The columns in the table are: Start of Week, Day Name, Start of Month, Month Name, Quarter, Year, Weekend, and End of Month. The 'End of Month' column is highlighted in green.

Start of Week	Day Name	Start of Month	Month Name	Quarter	Year	Weekend	End of Month
05/07/1997	Tuesday	01/07/1997	July	3	1997	N	7/31/1997

Bảng Customers

- Tính tuổi hiện tại của khách hàng

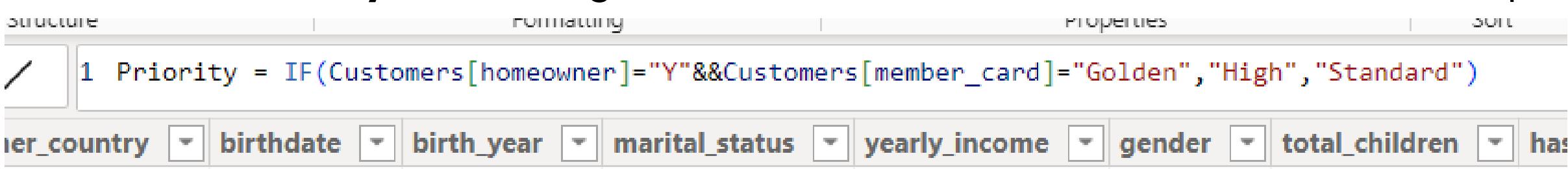


The screenshot shows the Power BI Data Editor interface. A new calculated column named 'Current Age' is being defined. The formula is:

```
1 Current Age = DATEDIFF(Customers[birthdate], TODAY(), YEAR)
```

The columns in the table are: birthdate and Current Age. The 'Current Age' column is highlighted in green.

- Thêm cột “**Priority**”, trả về “**High**” nếu homeowner = Y và có Golden membership cards, còn lại “**Standard**”



The screenshot shows the Power BI Data Editor interface. A new calculated column named 'Priority' is being defined. The formula is:

```
1 Priority = IF(Customers[homeowner] = "Y" && Customers[member_card] = "Golden", "High", "Standard")
```

The columns in the table are: homeowner, member_card, and Priority. The 'Priority' column is highlighted in green.

homeowner	member_card	Priority
Y	Golden	High
N	Standard	Standard

04. Sử dụng DAX - Calculated Columns

Bảng Customers

- Thêm cột "**Short_Country**", trả về 3 ký tự đầu tiên từ dữ liệu customer country

```
1 Short_Country = UPPER(LEFT(Customers[customer_country],3))
```

- Thêm cột "**House Number**", lấy ra tất cả ký tự, chữ số trước dấu cách đầu tiên trong cột "**customer_address**"

```
1 House Number = VAR SpacePosition = SEARCH(" ", 'Customers'[customer_address], 1, LEN('Customers'[customer_address]) + 1)
2 RETURN IF(SpacePosition = LEN('Customers'[customer_address]) + 1, 'Customers'[customer_address], LEFT('Customers'[customer_address], SpacePosition - 1))
```

Bảng Product

- Thêm cột "**Price_Tier**", trả về "**High**" nếu retail price >\$3, "**Mid**" nếu retail price >\$1, và "**Low**"

```
1 Price_Tier = IF(Products[product_retail_price]>3,"High",IF(Products[product_retail_price]>1,"Mid","Low"))
```

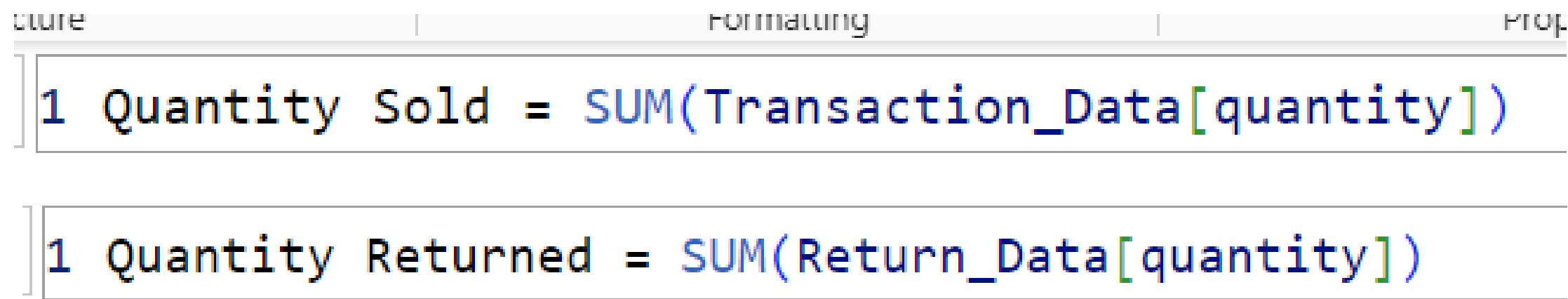
Bảng Stores

- Thêm cột "**Years_Since_Remodel**", tính số năm giữa năm hiện tại và ngày last_remodel_date

```
1 Years_Since_Remodel = YEAR(TODAY()) - YEAR('Stores'[last_remodel_date])
```

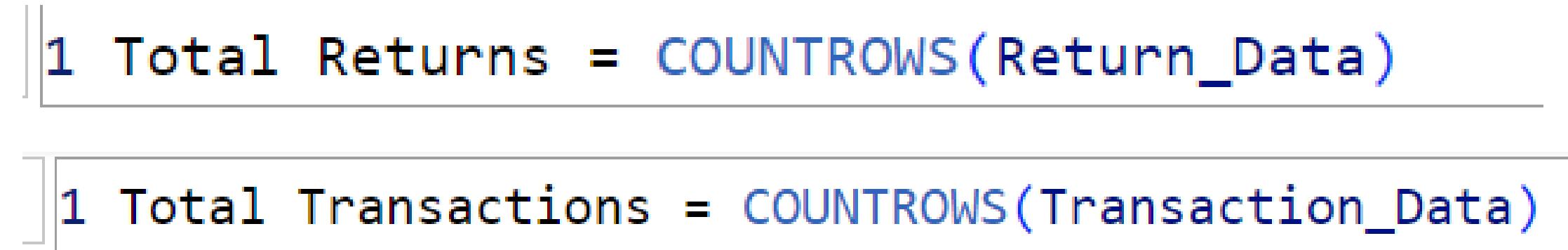
04. Sử dụng DAX – Measure

- Tạo các measures mới tên là "**Quantity Sold**" và "**Quantity Returned**", tính tổng số lượng sản phẩm đã bán và trả lại



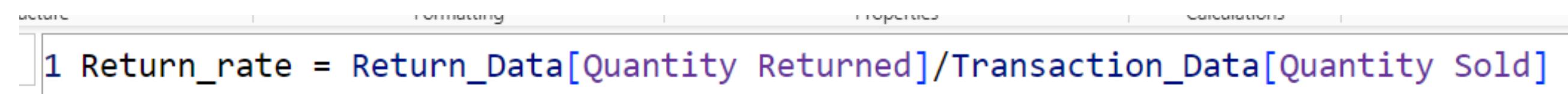
```
Quantity Sold = SUM(Transaction_Data[quantity])
Quantity Returned = SUM(Return_Data[quantity])
```

- Tạo các measures mới tên là "**Total Transactions**" và "**Total Returns**" để tính lượng giao dịch



```
Total Returns = COUNTROWS(Return_Data)
Total Transactions = COUNTROWS(Transaction_Data)
```

- Tạo một measure mới tên là "**Return Rate**" để tính tỷ lệ hàng trả lại so với hàng đã bán



```
Return_rate = Return_Data[Quantity Returned]/Transaction_Data[Quantity Sold]
```

04. Sử dụng DAX – Measure

- Tạo một measure mới tên là "**Weekend Transactions**" để tính số giao dịch vào cuối tuần

```
1 Weekend Transactions = CALCULATE(COUNTROWS(Transaction_Data), 'Calendar'[Weekend] = "Y")
```

- Tạo một measure mới tên là "**% Weekend Transactions**" để tính tỷ lệ số giao dịch vào cuối tuần trên tổng giao dịch

```
1 % Weekend Transactions = [Weekend Transactions] / [Total Transactions]
```

- Tính Total Revenue, Total cost, Total Profit
- Tạo một measure mới để tính "**Profit Margin**"
- Tạo một measure mới tên là "**YTD Revenue**" để tính tổng doanh thu lũy kế năm

```
1 YTD Revenue = CALCULATE([Total Revenue], DATESYTD('Calendar'[date]))
```

- Tạo các measure mới là "**Last Month Transactions**", "**Last Month Revenue**", "**Last Month Profit**", và "**Last Month Returns**"

```
1 Last Month Profit = CALCULATE([Total Profit], DATEADD('Calendar'[date], -1, MONTH))
```

05. Dashboard

MAVEN MARKET

product_brand	Total Transactions	Total Profit	Profit Margin	Return_rate
Hermanos	8071	\$33,167.27	58.54%	1.11%
Tell Tale	7694	\$29,925.59	58.04%	1.00%
Ebony	7685	\$29,749.45	59.82%	0.95%
Tri-State	7438	\$29,064.76	58.90%	1.02%
High Top	7153	\$28,502.83	60.39%	1.01%
Nationeel	6499	\$27,446.16	60.47%	1.11%
Fast	6188	\$24,746.78	61.05%	1.09%
Fort West	6175	\$23,951.11	59.79%	0.92%
Horatio	6121	\$25,589.28	58.44%	1.25%
Best Choice	6000	\$25,901.32	60.60%	0.84%
Sunset	5856	\$20,802.99	60.49%	1.04%
Red Wing	5806	\$23,623.72	59.37%	1.09%
Big Time	5797	\$23,710.27	60.26%	0.97%
Carrington	5622	\$21,467.59	59.52%	0.89%
Cormorant	5382	\$22,502.22	61.52%	0.90%
High Quality	5323	\$24,007.67	60.00%	1.03%
BBB Best	5254	\$19,374.93	62.10%	0.90%
Imagine	5225	\$21,741.70	61.51%	0.98%
Denny	5223	\$23,049.58	58.07%	0.91%
Golden	5218	\$19,403.25	58.71%	0.91%
PigTail	5180	\$17,338.44	60.68%	0.96%
Super	5120	\$19,600.20	60.66%	0.94%
Landslide	4951	\$15,986.58	58.63%	0.97%
Plato	4912	\$18,502.64	63.55%	1.04%
CDR	4574	\$18,007.91	59.03%	1.00%
Better	4073	\$13,192.66	61.14%	1.04%
Just Right	3906	\$14,248.77	59.54%	0.87%
Pleasant	3757	\$14,965.64	60.19%	0.98%
Carlson	3724	\$15,266.33	61.09%	1.08%
Total	167616	\$661,159.16	59.93%	0.99%

Current Month Transactions

269720

Goal: 269720 (+0%)

Current Month Profit

\$1.05M

Goal: \$1,052,819 (+0%)

Current Month Returns

496

Goal: 482, 269720

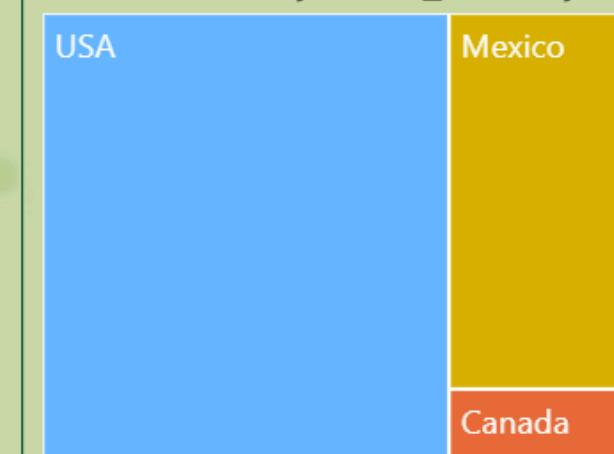
All

Total Transactions by store_city



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Transaction By store_country



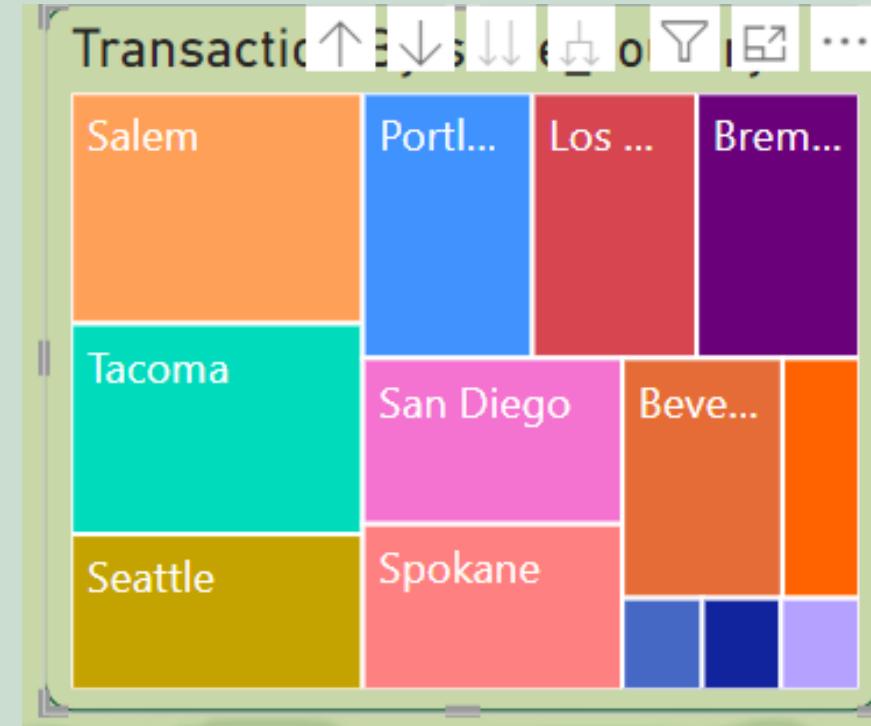
Quantity by Product_brand



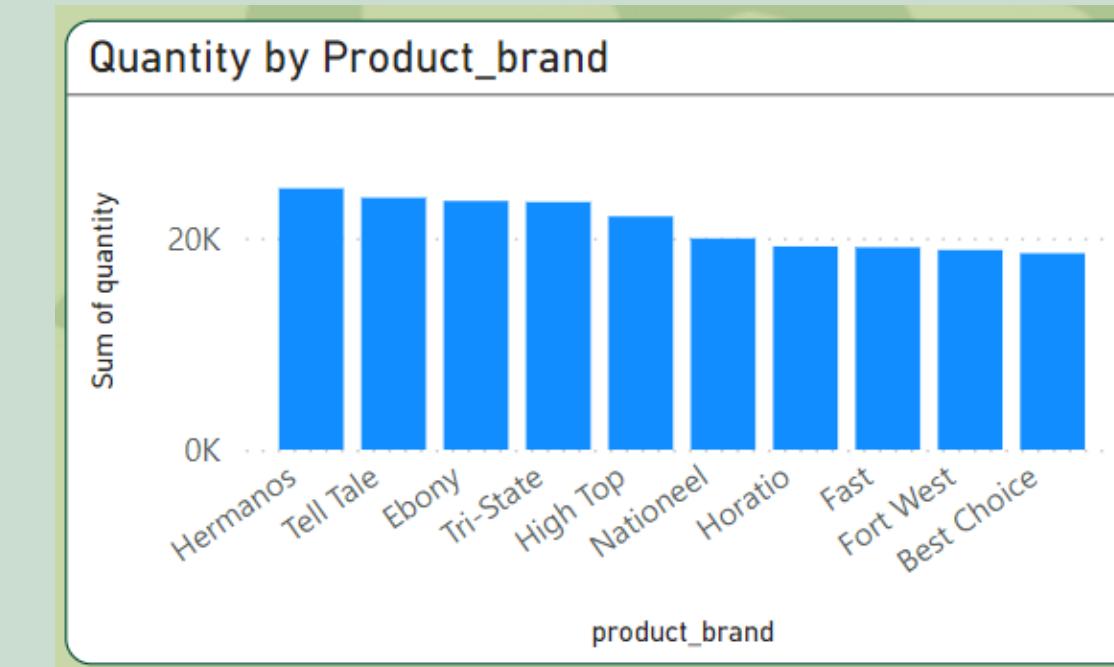
Profit & Revenue by store_country



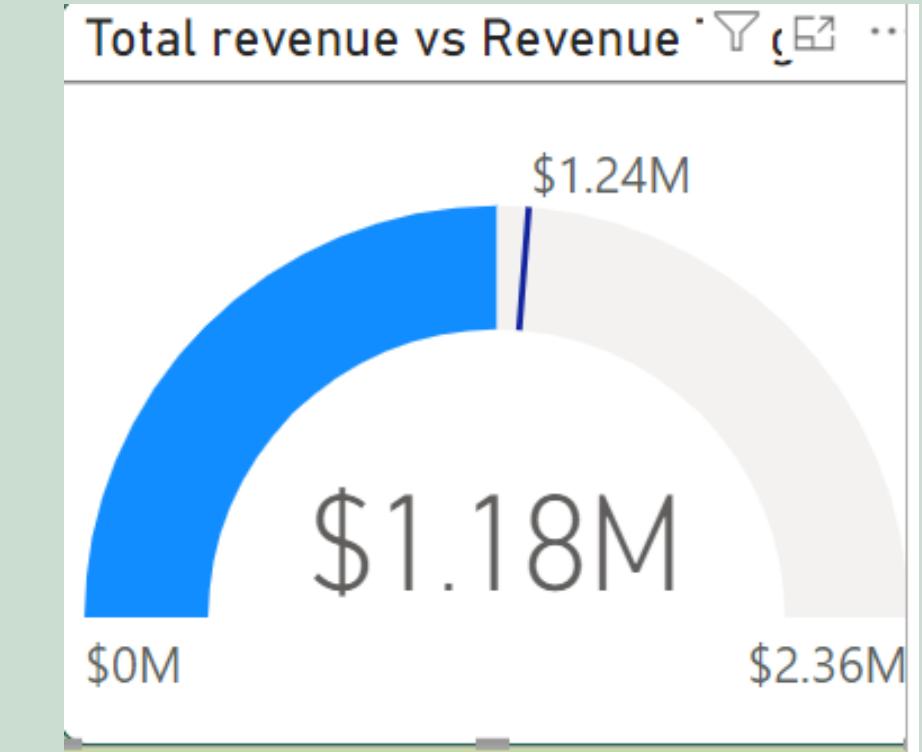
Insight



Top 3 thành phố có tổng số giao dịch cao nhất ở USA là Salem, Tacoma, Seattle



Top 3 brand có số lượng sản phẩm nhiều nhất là Hermanos, Tell tale, Ebony



So với target revenue thì total revenue đã đạt được \$1.18

...

Thank You

For Your Attention

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