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PROJECT TITLE : WALMART'S SALES ANALYSIS DATA

VISUALISATION

PROJECT SUBMITTED TO : NAAN MUDHALVAN

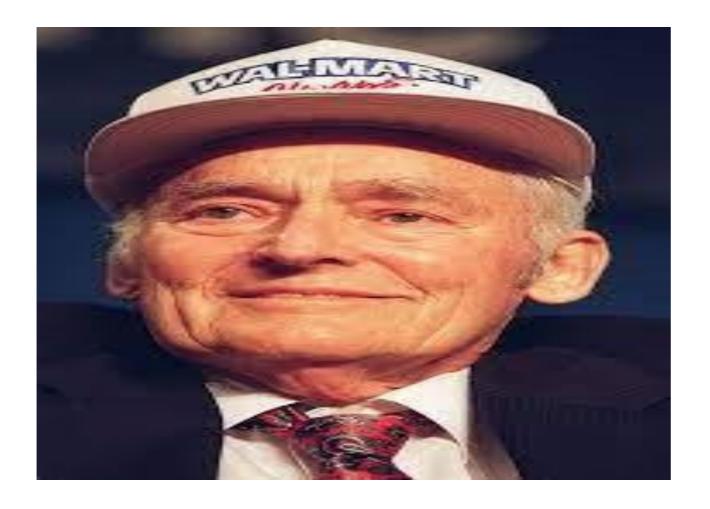
YEAR : III YEAR

DEPARTMENT : B.COM GENERAL

SEMESTER : VI SEMESTER

GUIDED BY : Ms. SREE KEERTHANA

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WALMART

INTRODUCTION:

Walmart is an American multinational retail company that has over 2.2 million employees (2018) and it operates a chain of hypermarkets, discount department stores, variety, and grocery stores.

As of 2019, there are more than 4,700 Walmart stores in the US, and over 90% of the US population lives within 10 miles of a Walmart storefront. Walmart even uses robots to scan shelf-inventory in over 350 stores and has its museum. The total area of Walmart's parking lots combined is roughly similar to the size of Tampa, Florida.

If Walmart supposed to be a country, it would be 28th largest economy in the world.

History

From humble beginnings. To redefining retail.

Sam Walton was a man with visionary leadership, and our business is a result of that. Since the first Walmart opened in 1962 in Rogers, Arkansas, we've been dedicated to making a difference in the lives of our customers. Today, we're helping communities save money and live better all over the world.

"Give me a W! Give me an A! Give me an L! How about a squiggly? Now give me an M! A! R! T! What's that spell? Walmart! I can't hear you! Walmart! Who's number one? The customer!"

the 1960s

Retail Revolution

Sam Walton's strategy is built on an unshakeable foundation: the lowest prices anytime, anywhere.

• 1962

On July 2, 1962, Sam Walton opens the first Walmart store in Rogers, Arkansas.

• 1967

The Walton family owns 24 stores, ringing up \$12.7 million in sales.

1969

The company officially incorporates as Wal-Mart Stores, Inc.

1962 ribbon cutting for the first Walmart store in Rogers, Arkansas.

the 1970s

Walmart goes national

In the 1970's, a decade of incredible growth, "Mr. Sam" begins to take Walmart national, providing his vision's widespread appeal.

1970

Walmart becomes a publicly traded company. The first stock is sold at \$16.50 per share.

• 1971

The first distribution center and Home Office open in Bentonville, Arkansas.

• 1972

Walmart is listed on the New York Stock Exchange (WMT). With 51 stores, Walmart records sales of \$78 million.

• 1975

Inspired by a visit to a Korean manufacturing facility, Sam Walton introduces the Walmart cheer.

1978

First pharmacy opens.

1979

The Walmart Foundation is established

The 1980s

Decade of firsts

In the 1980s, the first Sam's Club opens, serving small businesses and individuals, and the first Walmart Supercenter opens, combining a supermarket with general merchandise.

• 1980

Walmart reaches \$1 billion in annual sales, faster than any other company at that time.

Walmart has 276 stores and employs 21,000 associates.

• 1983

The first Sam's Club opens in Midwest City, Oklahoma.

Walmart replaces cash registers with computerized point-of-sale systems, enabling fast and accurate checkout.

• 1984

Sam Walton does the hula on Wall Street, making good on a promise to associates after the company achieves a pre-tax profit of 8% for the previous fiscal year.

1987

The Walton family establishes the Walton Family Foundation.

The company installs the largest private satellite communication system in the U.S., linking the company's operations through voice, data and video communication.

1988

The first Walmart Supercenter opens in Washington, Missouri, combining general merchandise and a full-scale supermarket to provide one-stop shopping convenience. .

the

1990s

America's Top Retailer

By 1990, Walmart is the nation's No. 1 retailer. As the Walmart Supercenter redefines convenience and one-stop shopping, Everyday Low Prices goes international.

1991

Through a joint venture with Cifra, a Mexican retail company, Walmart goes global, opening a Sam's Club in Mexico City.

First optical location.

• 1992

While receiving the Medal of Freedom, Sam Walton articulates the company's mission of saving people money so they can live better, shortly before passing away at age 74.

Rob Walton becomes chairman of the board.

Walmart employs 371,000 associates in 1,928 stores and clubs.

• 1993

Walmart celebrates its first \$1 billion sales week.

1994

Walmart expands into Canada with the purchase of 122 Woolco stores.

1996

Walmart opens its first stores in China.

• 1997

The company celebrates its first \$100 billion sales year.

1998

The Neighborhood Market format is introduced with three stores in Arkansas.

Walmart enters the United Kingdom with the acquisition of Asda.



A group of associates cheer as Walmart goes international

the 2000s

New Millennium

Walmart enters the new millennium dedicated to offering customers a seamless shopping experience, whether they are online, in a store or on a mobile device.

• 2000

H. Lee Scott, Jr. succeeds David Glass as CEO.

Walmart.com is founded, allowing U.S. customers to shop online.

Walmart employs more than 1.1 million associates in 3,989 stores and clubs worldwide.

• 2002

For the first time, Walmart tops the Fortune 500 ranking of America's largest companies.

Walmart enters the Japanese market through its investment in Seiyu.

• 2005

Walmart takes a leading role in disaster relief, contributing \$18 million and 2,450 truckloads of supplies to victims of hurricanes Katrina and Rita.

Walmart announces major commitment to environmental sustainability.

- Create zero waste
- Use only renewable energy
 - Sell products that sustain people and the environment

• 2006

Walmart introduces its \$4 generic-drug prescription program.

2007

Walmart.com launches its Site to Store service, enabling customers to make a purchase online and pick up merchandise in stores.

• 2009

Mike Duke becomes CEO.

Walmart enters Chile with the acquisition of a majority stake in D&S S.A.

Walmart exceeds \$400 billion in annual sales.

THE 2010s

People-Led and Tech-Empowered

Walmart commits to serving customers in a changing retail environment, leveraging both associates and technology to make it happen.

• 2010

Bharti Walmart, a joint venture, opens its first store in India.

Walmart commits \$2 billion through the end of 2015 to help end hunger in the United States.

Walmart launches a global commitment to sustainable agriculture, aiming to strengthen local farmers and economies, while providing customers access to affordable, high-quality food.

• 2011

Walmart expands its business into South Africa by acquiring 51% of Massmart Holdings Limited.

With the acquisition of Massmart in South Africa, Walmart surpasses 10,000 retail units around the world.

• 2012

Walmart celebrates 50 years of helping people save money so they can live better.

• 2013

Walmart U.S. announces it will hire any honorably discharged veteran within their first year off active duty. Walmart projects hiring over 100,000 veterans in the next five years.

Walmart acquires Bharti Walmart Private Limited, including the Best Price Modern Wholesale cash and carry business in India.

Walmart commits to buying \$250 billion in goods manufactured in the United States over the next 10 years.

Walmart opens its first store in the District of Columbia.

• 2014

Doug McMillon succeeds Mike Duke as CEO.

Greg Foran becomes President and CEO of Walmart U.S.

• 2015

The company employs 2.3 million associates worldwide and serves more than 200 million customers each week at more than 11,000 stores in 27 countries.

Walmart announces a \$2.7 billion investment over two years in its U.S. workforce.

Walmart acquires 100% stake in Yihaodian, an e-commerce business in China, up from the 51% stake since 2012.

Rob Walton retires as chairman of the board of directors for Wal-Mart Stores, Inc. He continues to serve as a director

Greg Penner succeeds Rob Walton as chairman of Wal-Mart Stores, Inc.

• 2016

Walmart opens its Culinary & Innovation Center in Bentonville, Arkansas to develop and test new and innovative products.

Walmart Pay, a fast, easy and secure way for customers to make purchases with their smart phones, becomes a popular in-store payment method.

Online retailer Jet.com and Heyneedle, a subsidiary of Jet.com, become part of the Walmart family.

Walmart opens its first training Academy in South Carolina, with 200 total locations planned at stores across the U.S.

More than 1.2 million Walmart and Sam's Club associates get a pay increase as part of the company's two-year, \$2.7 billion investment in its people.

With goals focused on sustainability, Walmart makes a commitment to become the most trusted retailer by 2025.

• 2017

John Furner becomes Sam's Club's new president and CEO.

Walmart launches free two-day shipping on more than 2 million items, no membership required.

Walmart acquires Moosejaw, ModCloth, Bonobos and Parcel. Jet acquires ShoeBuy.com, which is later renamed Shoes.com.

Walmart launches Store No 8, a tech incubator, with a focus to drive commerce forward and transform the future of retail.

Walmart launches Project Gigaton, asking suppliers to help reduce greenhouse gas emissions from its supply chain by 1 gigaton.

The company also sets a new goal to reduce its consumables chemical footprint by 10% by 2022.

• 2018

The company changes its legal name from Wal-Mart Stores, Inc. to Walmart Inc.

More than 1 million associates benefit from wage rate increases and expanded maternity and parental leave benefits.

Judith McKenna becomes President and CEO of Walmart International.

Walmart acquires Flipkart in India, divestiture of its business in Brazil and proposed merger of Asda and Sainsburys in the U.K.

Walmart acquires Eloquii, Bare Necessities, and Art.com.

• 2019

John Furner named President and CEO of Walmart U.S.

First Walmart Health Center opens.

Walmart launches InHome Delivery and free NextDay delivery from Walmart.com.

Kath McLay named President and CEO of Sam's Club.

Walmart insources its advertising business, now known as Walmart Connect.



THE 2020s

Beyond traditional retail

Walmart expands the ecosystem that supports customers, enhancing processes that enable them to shop wherever and however they choose.

• 2020

Walmart and Sam's Club respond to COVID-19, turning parking lots into testing centers and sourcing PPE materials for frontline healthcare workers.

Walmart launches Walmart+ membership program to help customers save even more time and money.

Walmart.org establishes Center for Racial Equity following the murder of George Floyd.

Walmart Argentina is acquired by Grupo de Narváez.

• 2021

Walmart sells majority stake in Seiyu to KKR and Rakuten.

Walmart and Sam's Club administer tens of millions of COVID-19 vaccines, 80% of which were delivered in medically underserved communities.

Walmart completes the sale of United Kingdom grocery chain Asda.

Walmart invests in drone delivery, fintech and autonomous vehicles.

Walmart launches Walmart GoLocal last-mile delivery service.

Walmart announces plans to pay 100% of college tuition and books for U.S. associates through Live Better U.

Walmart announces inaugural \$2 billion green bond offering.

Walmart launches Walmart Data Ventures.

• 2022

Walmart scales InHome Delivery reaching 30 million U.S. homes.

Walmart Health expands to Florida.

Walmart's Project Gigaton™ initiative surpasses halfway mark.

Walmart celebrates 60th Anniversary.

The Wal-Mart Company has achieved a lot since its founding. The company uses competitive and innovative approaches in its sustainability strategy. The company has boosted many green products at its peak. However, it needs a new game changer in order to become more sustainable than ever before. The company needs to integrate systems to enable it monitor the environmental standards of its suppliers.

This will include embarking on conservative measures by going green. This will involve changing the way cotton is produced and the textile manufacturing process. Wal-Mart has suffered from serious "Un-Green" issues in the past. There are many environmental benefits that the company will achieve by creating an eco-friendly textile network (Von Weizsacker, Amory, and Hunter 130).

First, going green will help the company increase its sales because it will attract many customers to purchase the company's products. The strategy will also make the prices for textiles cheaper than before. Furthermore, going green meets the appeal of employees and customers' health and makes the price of products acceptable. Wal-Mart will also gain favor of consumers with the same idea, and hence increase its sales, profits, and revenues. The company will also be rewarded tax credits if it utilizes eco-friendly practices in its business.

OBJECTIVE

- Perform descriptive statistics to understand the dispersion of data
- Frame a hypothesis and test it using Data Analysis in Excel.
- Create regression models to forecast sales based on both single- and multi feature sets.
- Additionally, assess the models and contrast their individual scores, such as R2, RMSE, etc.
 - Create Visualization to make people understand the data along with interpretation.
 - Increasing annual sales and profit

ACKNOWLEDGEMENT

Store – the store number

Date – the week of sales

Weekly Sales – sales for the given store

Holiday Flag – Whether the week is a special holiday week 1 - Holiday week, 0 - Non - holiday week

Temperature – Temperature on the day of sale

Fuel _ Price – Cost of fuel in the region

CPI – Prevailing consumer price index

Unemployment – Prevailing unemployment rate

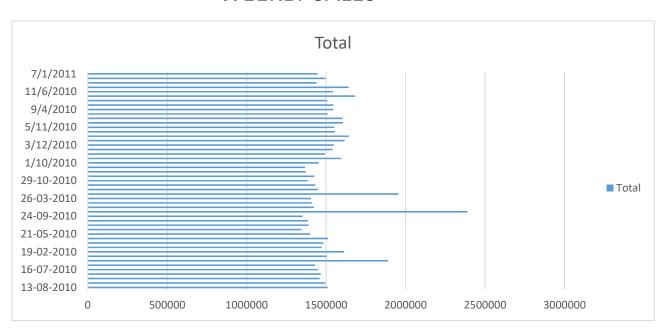
Store	Date	Weekly_Sales	Holiday_Flag	Temperature	Fuel_Price	СРІ	Unemployment
1	5/2/2010	1643690.9	0	42.31	2.572	211.0964	8.106
1	12/2/2010	1641957.44	1	38.51	2.548	211.2422	8.106
1	19-02-2010	1611968.17	0	39.93	2.514	211.2891	8.106
1	26-02-2010	1409727.59	0	46.63	2.561	211.3196	8.106
1	5/3/2010	1554806.68	0	46.5	2.625	211.3501	8.106
1	12/3/2010	1439541.59	0	57.79	2.667	211.3806	8.106
1	19-03-2010	1472515.79	0	54.58	2.72	211.2156	8.106
1	26-03-2010	1404429.92	0	51.45	2.732	211.018	8.106
1	2/4/2010	1594968.28	0	62.27	2.719	210.8204	7.808
1	9/4/2010	1545418.53	0	65.86	2.77	210.6229	7.808
1	16-04-2010	1466058.28	0	66.32	2.808	210.4887	7.808
1	23-04-2010	1391256.12	0	64.84	2.795	210.4391	7.808
1	30-04-2010	1425100.71	0	67.41	2.78	210.3895	7.808
1	7/5/2010	1603955.12	0	72.55	2.835	210.34	7.808
1	14-05-2010	1494251.5	0	74.78	2.854	210.3374	7.808
1	21-05-2010	1399662.07	0	76.44	2.826	210.6171	7.808
1	28-05-2010	1432069.95	0	80.44	2.759	210.8968	7.808
1	4/6/2010	1615524.71	0	80.69	2.705	211.1764	7.808
1	11/6/2010	1542561.09	0	80.43	2.668	211.4561	7.808
1	18-06-2010	1503284.06	0	84.11	2.637	211.4538	7.808
1	25-06-2010	1422711.6	0	84.34	2.653	211.3387	7.808
1	2/7/2010	1492418.14	0	80.91	2.669	211.2235	7.787
1	9/7/2010	1546074.18	0	80.48	2.642	211.1084	7.787
1	16-07-2010	1448938.92	0	83.15	2.623	211.1004	7.787
1	23-07-2010	1385065.2	0	83.36	2.608	211.2351	7.787
1	30-07-2010	1371986.6	0	81.84	2.64	211.3699	7.787
1	6/8/2010	1605491.78	0	87.16	2.627	211.5047	7.787
1	13-08-2010	1508237.76	0	87	2.692	211.6394	7.787
1	20-08-2010	1513080.49	0	86.65	2.664	211.6034	7.787
1	27-08-2010	1449142.92	0	85.22	2.619	211.5673	7.787
1	3/9/2010	1540163.53	0	81.21	2.577	211.5312	7.787
1	10/9/2010	1507460.69	1	78.69	2.565	211.4952	7.787
1	17-09-2010	1430378.67	0	82.11	2.582	211.5225	7.787
1	24-09-2010	1351791.03	0	80.94	2.624	211.5972	7.787
1	1/10/2010	1453329.5	0	71.89	2.603	211.672	7.838
1	8/10/2010	1508239.93	0	63.93	2.633	211.7468	7.838
1	15-10-2010	1459409.1	0	67.18	2.72	211.8137	7.838
1	22-10-2010	1345454	0	69.86	2.725	211.8613	7.838
1	29-10-2010	1384209.22	0	69.64	2.716	211.9088	7.838
1	5/11/2010	1551659.28	0	58.74	2.689	211.9564	7.838

HYPOTHESIS

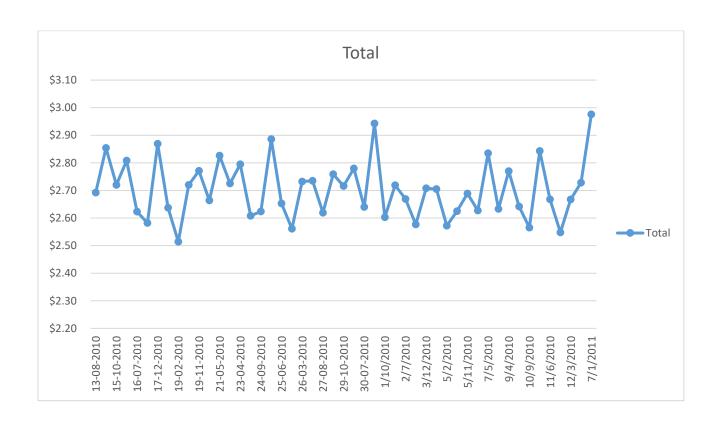
	T	
	Weekly_Sale	Holiday_Flag
Weekly_Sale	1	
Holiday_Flag	0.16665753	1
	Weekly_Sale	Holiday_Flag
Weekly_Sale	-0.666684939	
Holiday_Flag	-1.500027409	1
	Weekly_Sale	Holiday_Flag
Weekly_Sale	-2.333369879	
Holiday_Flag	-3.166712348	1
	Weekly_Sale	Holiday_Flag
Weekly_Sale	-4.000054818	
Holiday_Flag	-4.833397288	1
	Weekly_Sale	Holiday_Flag
Weekly_Sale	-5.666739757	
Holiday_Flag	-6.500082227	1
	Weekly_Sale	Holiday_Flag
Weekly_Sale	-7.333424697	
Holiday_Flag	-8.166767167	1

CREATING VISUALS USING PIVOT TABLE:

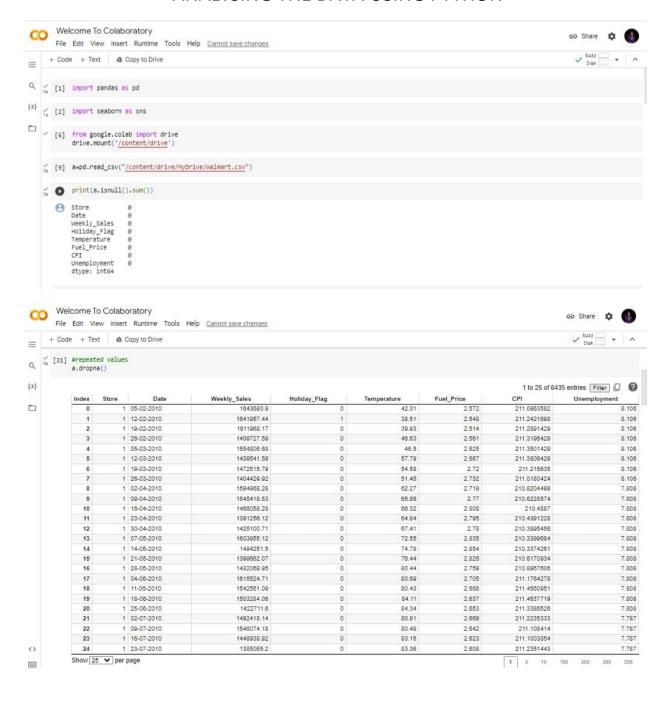
WEEKLY SALES

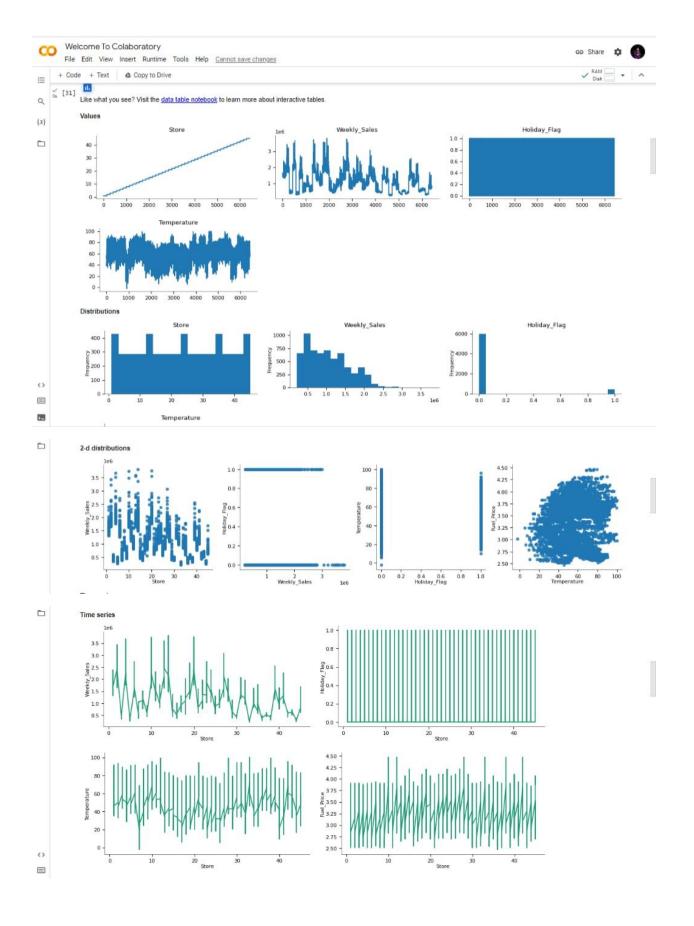


FUEL PRICE



ANALYSING THE DATA USING PYTHON

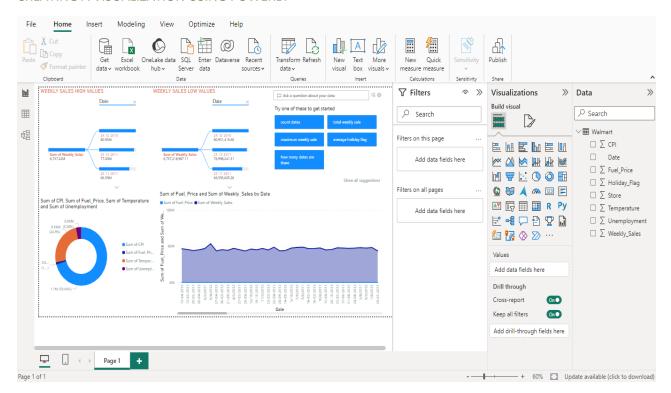




```
[13] #remove irrelevent data
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             a.drop_duplicates
\{x\}
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46.50
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1 05-03-2010
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             6430
                      45 28-09-2012
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6431 192.170412
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             [6435 rows x 8 columns]>
             #treat the missing values
       [18] a.duplicated()
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                      False
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                      False
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             6431
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6433
6434
                      False
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             Length: 6435, dtype: bool
       [19] #to find mean
             a.mean()
             <ipython-input-19-d6ac9701668a>:1: Futurewarning: The default value of numeric_only in DataFrame.mean is deprecated. In a future version, it will default to Falsa
               a.mean()
             Store
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                              2.300000e+01
                              1.046965e+06
6.993007e-02
                              6.066378e+01
             Temperature
             Fuel_Price
                              3.358607e+00
             CPI
Unemployment
                              1.715784e+02
7.999151e+00
             dtype: float64
             4
Welcome To Colaboratory
                                                                                                                                                                         G⊅ Share 🌣 📳
        File Edit View Insert Runtime Tools Help Cannot save changes
      \equiv
    // [25] #median
a.median()
Q
            {x}
4
       [27] # to find maximum a.max()
             Store
Date
Weekly_Sales
Holiday_Flag
Temperature
Fuel_Price
CPI
Linemployment
                               45
31-12-2010
3818686.45
1
                                 100.14
4.468
                              227.232807
14.313
             Unemployment
dtype: object
       [28] #to find minimum a.min()
            Store
Date
Weekly_Sales
Holiday_Flag
Temperature
Fuel_Price
CPI
Unemployment
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                              1
01-04-2011
209986.25
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126.064
3.879
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☐ ¼ [40] #standard deviation
              a.std()
              <ipython-input-40-3c2ffb75d6cc>:2: FutureWarning: The default value of numeric_only in DataFrame.std is deprecated. In a future version, it will default to False.
              a.std()
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Temperature
Fuel_Price
              CPI
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              Unemployment
                                      1.875885
       [34] # to find krutosis
              a.kurtosis()
              <ipython-input-34-d44a27f21237>:1: FutureWarning: The default value of numeric_only in DataFrame.kurt is deprecated. In a future version, it will default to False
              Weekly_Sales
                                0.053141
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                                9.383410
                               -0.612801
-1.177378
                               -1.839813
              CPI
              Unemployment
                                2.639712
              dtype: float64
()
    [35] #skewness
              a.skew()
{x}
              <ipython-input-35-1df99456805>:2: FutureWarning: The default value of numeric only in DataFrame.skew is deprecated. In a future version, it will default to Falsa
                a.skew()
              Store
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0.000000
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Fuel_Price
CPI
                               -0.336768
-0.096158
0.063492
              Unemployment
                                1.188144
              dtype: float64
             4
```

CREATING A VISUALIZATION USING POWERBI



MILESTONES

Analyze the data using Regression analysis to model the relationship between a Dependent (target) and independent (predictor) variables with one or more

Data Wrangling- Read the dataset, search for missing value, null values, repeated values And outliers and treat the missing value, remove irrelevant data, replace null values, Delete repeated values and treat outliers

Perform Descriptive Statistics by calculating mean, median, mode, range, standard Deviation, variance standard error, skewness, kurtosis, maximum, minimum

Framing hypothesis related to the data both Null(Ho)and alternative hypothesis (H1). Select test statistics. Identify the p-value(probability value) and tell us whether to accept Or reject the hypothesis. Perform using data analysis in Excel

OUTCOME

Can become a Data engineer- BI specifically data wrangler who can transform data into Business value to provide qualified data-based insights to various business verticals

Helpful in fetching jobs as Data Analyst who can Inspect, Clean, Validate, Update and Transform data to provide required information

Can develop the skill to become a Machine Learning engineer who has machine Learning skills and can build and deploy machine learning models

CONCLUSION

In conclusion, Wal-Mart is the number one retailer in the United States and is at the top of the Fortune 500 listing. Wal-Mart operates in many countries world-wide and is moving into new countries every year. Wal-Mart is also expanding as a retailer. They have expanded into many other sectors of the marketplace, including groceries, gas stations, electronics, and automaintenance. Each year, Wal-Mart finds new ways to grow and offer more services to their customers Each year, the number of people who have a stake in Wal-Mart also grows. Each year, more claims are made against Wal-Mart by the unions and other businesses that have been forced out of business. Wal-Mart is often able to uncut many other local industries and more and more local businesses are shutting down when Wal-Mart moves into town. The unions are filing more court claims against Wal-Mart because they encourage their workers not to join unions .As a result of Wal-Mart's ever growing size and variety of services they offer, their public affairs department is going to become more and more important.

As Wal-Mart at Sectors of the marketplace, there is going to be more regulation against them and their public affairsto make it possible for Wal-Mart to continue to grow. And as

the animosity against Wal-Mart becomes more widespread, here and in foreign countries, Wal- Mart is going to have to work harder to maintain their good reputation. Wal-Mart's foundation will become increasingly more important for giving things back to the community.

In order for Wal-Mart to stay at the top of their game and follow the company strategyand achieve their key policy goals, they are going to have deal better with their stakeholders and make sure they guard their reputation independent Variables. Make us understand how the value of the dependent variable is changing Corresponding to an independent variable when other independent variables are held FixedVisualize the data and provide charts, plots, etc., explaining the relationship between Variables using PowerBI or Tableau.

