



INNOMATICS

RESEARCH LABS



Flipkart



Project on **FLIPKART'S AIR CONDITIONER DATA ANALYSIS**

Presented by:

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**I want to learn Data Science for
skills and career Transition**

It has great job opportunities.

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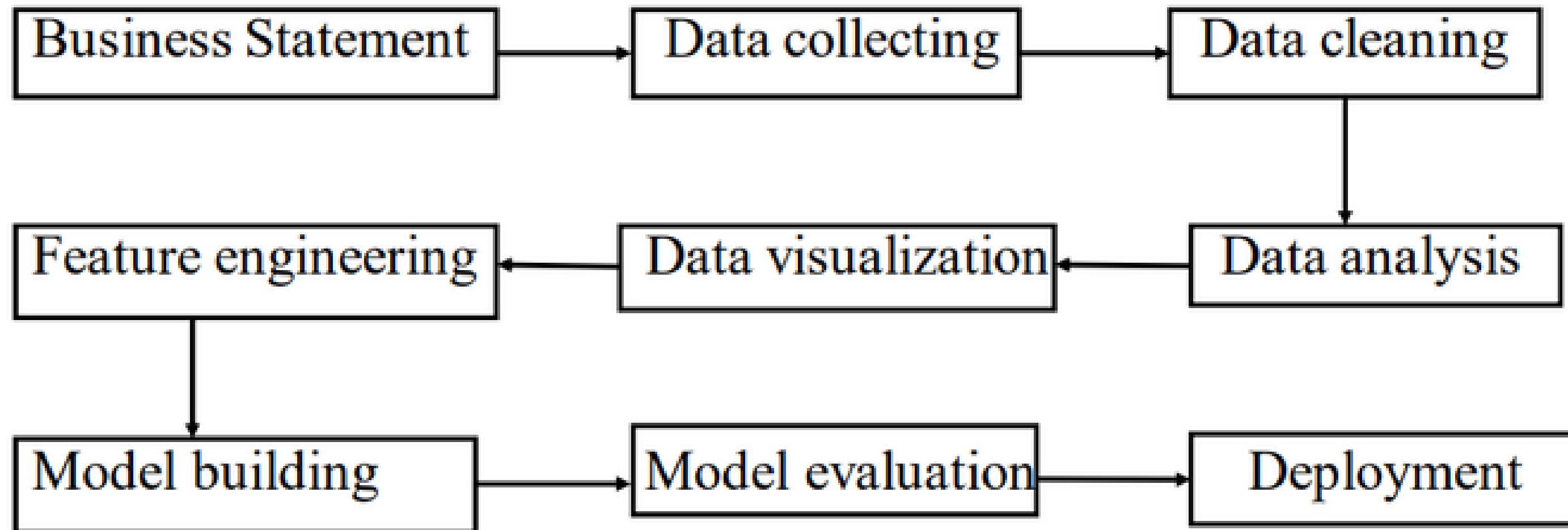
PROBLEM STATEMENT:

- People are interested in buying air conditioners but it can be difficult to find the right one. There are many different brands and models available, and it can be hard to compare them.

OBJECTIVE OF THE PROJECT:

- To identify the most popular air conditioners on Flipkart
- To analyse the average prices of air conditioners.
- To analyse the Rating by Brands
- To identify the most popular rated brands of air conditioners.

Life Cycle of Data Science:



WEB SCRAPPING:

Web scraping is the process of extracting specific data from the Website automatically.

STEPS:

- We have selected **Flipkart** Website for our web scraping project.
- Request to the website
`page = requests.get('https://www.flipkart.com/')`
- Import BeautifulSoup and all the necessary libraries for scraping data.
- Extracted useful information that i need like
(Brand, Warranty_Years, Price, Rating) data
- Check length's of all columns and create the Data Frame.
- Exported into .csv format

WEBSITE

Flipkart

Explore Plus

ac

Login

Become a Seller

CATEGORIES

< Home & Kitchen

< Home Appliances

Air Conditioners

PRICE

Min to ₹50000+

Assured

BRAND

Search Brand

SAMSUNG

Whirlpool

Voltas

MarQ by Flipkart


Blue Star

Panasonic

Showing 1 – 24 of 899 results for "ac"

Sort By Relevance Popularity Price – Low to High Price – High to Low Newest First

Flipkart's Choice



LG AI Convertible 6-in-1 Cooling 2023 Model 1.5 Ton 3 Star Split AI Dual Inverter 2 Way Swing, HD Filtration

₹35,999

₹68,999 48% Off

Free delivery

Assured

Lowest price

Upto ₹4,500 Off on Exchange


4.1★ 4,644 Ratings & 448 Reviews

Power Consumption: 968.04 kWh

Room Size: 111 to 150 sqft

1 Year Warranty on Product, 5 Years Warranty on PCB and 10 Years Warranty on Compressor with Gas Charging

Add to Compare



MarQ by Flipkart 2023 Range 1.5 Ton 3 Star Split Inverter 4-in-1 Convertible with Turbo Cool Technology

₹28,499

₹52,999 46% Off

Free delivery

Assured

Upto ₹4,500 Off on Exchange

Bank Offer

4★ 676 Ratings & 102 Reviews

Power Consumption: 1620 W

Room Size: 111 to 150 sqft

1 Year Warranty on Product and 10 Years Warranty on Compressor

Elements

Console

Sources

Network

1

12

13

Settings

More

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flex

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div class="col col-5-12 nil9QM"></div>

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Styles

Computed

Layout

Event Listeners

DOM Breakpoints

Properties

Accessibility

Filter

chev .cls +, [i]

element.style {

}

.col-7-12 {

width: 38.33%;

}

.col {

display: inline-block;

vertical-align: top;

}

.col, .row {

width: 100%;

}

* {

box-sizing: border-box;

margin: 0;

}

Softwares used:

- jupyter Notebook

Programming Language Used :

- python programming language

Libraries Used

- Numpy
- Pandas
- Beautiful Soup
- requests
- matplotlib
- seaborn

Data Cleaning Steps:

- Checking and removing special characters.
- Identifying and inputting missing values.
- Changing the data types(Type Conversion)



Data Frame Before Cleaning

	Brand	Model	Power_Consumption_kWh	Room_Size_sqft	Warranty_Years	Price	Rating	Ton
0	Blue	Blue Star Convertible 5 in 1 Cooling 2023 Mode...	1002.0	111.0	1.0	₹35,490	4.2	1.5
1	Blue	Blue Star 2023 Model 0.8 Ton 3 Star Split Inve...	521.0	90.0	1.0	₹27,999	4.2	0.8
2	MarQ	MarQ by Flipkart 2023 Range 1.5 Ton 3 Star Spl...	1620.0	111.0	1.0	₹28,499	4.0	1.5
3	Whirlpool	Whirlpool Convertible 4	963.0	111.0	1.0	₹31,990	3.9	1.5
4	Lloyd	Lloyd 1.5 Ton 3 Star Split Inverter AC	1002.0	111.0	1.0	₹32,990	4.3	1.5
...
408	LG	LG 1.5 Ton 3 Star Window Dual Inverter AC with Wi	624.0	111.0	NaN	₹53,899	3.9	1.5
409	Panasonic	Panasonic 1.5 Ton 3 Star Split Inverter AC	NaN	151.0	NaN	₹35,739	NaN	1.5
410	Daikin	Daikin 1.8 Ton 3 Star Hot and Cold Split Inver...	NaN	111.0	NaN	₹30,999	4.2	1.8
411	Haier	Haier Top Flow 1.5 Ton 3 Star Window Jet Air F...	NaN	90.0	NaN	NaN	NaN	1.5
412	SAMSUNG	SAMSUNG Convertible 5	NaN	NaN	NaN	NaN	4.0	1.0

413 rows × 8 columns

Data Frame After Cleaning

	Brand		Model	Power_Consumption_kWh	Room_Size_sqft	Warranty_Years	Price	Rating	Ton
0	Blue	Blue Star Convertible 5 in 1 Cooling 2023 Mode...		1002.00	111.0	1.0	35490	4.2	1.5
1	Blue	Blue Star 2023 Model 0.8 Ton 3 Star Split Inve...		521.00	90.0	1.0	27999	4.2	0.8
4	Lloyd	Lloyd 1.5 Ton 3 Star Split Inverter AC		1002.00	111.0	1.0	32990	4.3	1.5
5	Voltas	Voltas 1.5 Ton 5 Star Split Inverter AC		751.00	111.0	1.0	38999	4.2	1.5
6	Panasonic	Panasonic Convertible 7		1002.00	111.0	1.0	36490	4.3	1.5
...
403	Blue	Blue Star 1 Ton 3 Star Split Inverter AC		1450.00	90.0	1.0	34500	4.4	1.0
404	Lloyd	Lloyd 0.8 Ton 3 Star Split Inverter AC		1115.00	111.0	1.0	26999	4.2	0.8
405	Godrej	Godrej 1.5 Ton 3 Star Split Inverter AC		1695.00	111.0	1.0	37990	4.2	1.5
407	Blue	Blue Star 1.5 Ton 3 Star Split AC		1192.00	111.0	1.0	33990	4.4	1.5
410	Daikin	Daikin 1.8 Ton 3 Star Hot and Cold Split Inver...		1103.39	111.0	1.0	30999	4.2	1.8

VISUALIZATION

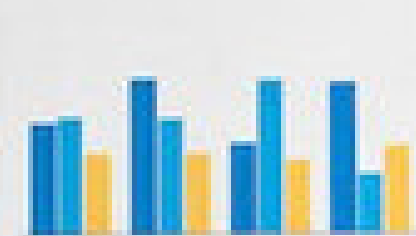
Geo Chart



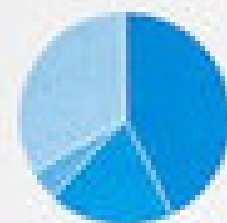
Scatter Chart



Column Chart



Pie Chart



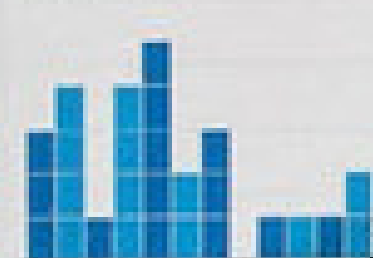
Bubble Chart



Donut Chart



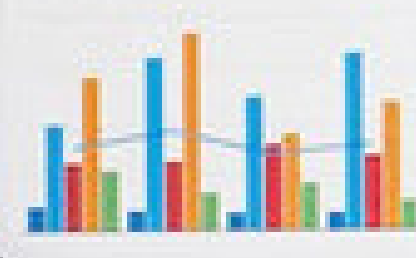
Histogram



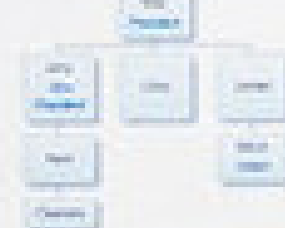
Bar Chart



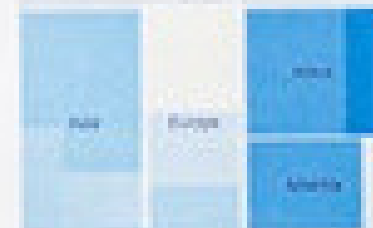
Combo Chart



Org Chart



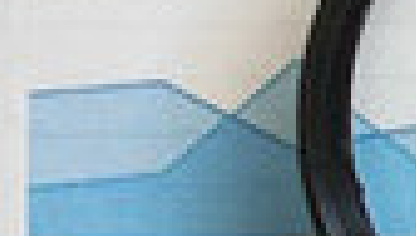
Treemap



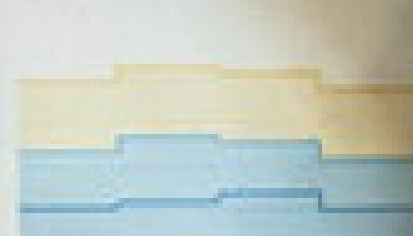
Table

	Name	Salary	Full Time
1	Mark	\$54,700	✓
2	Albert	\$75,200	✓
3	Anna	\$25,700	✓
4	Lisa	\$25,800	✓

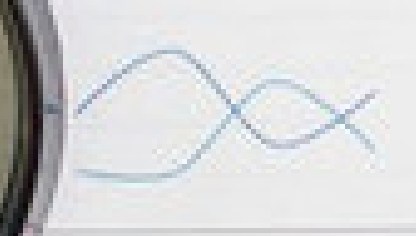
Area Chart



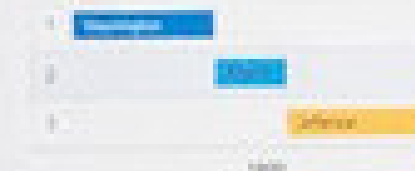
Stepped Area Chart



Line Chart



Timeline



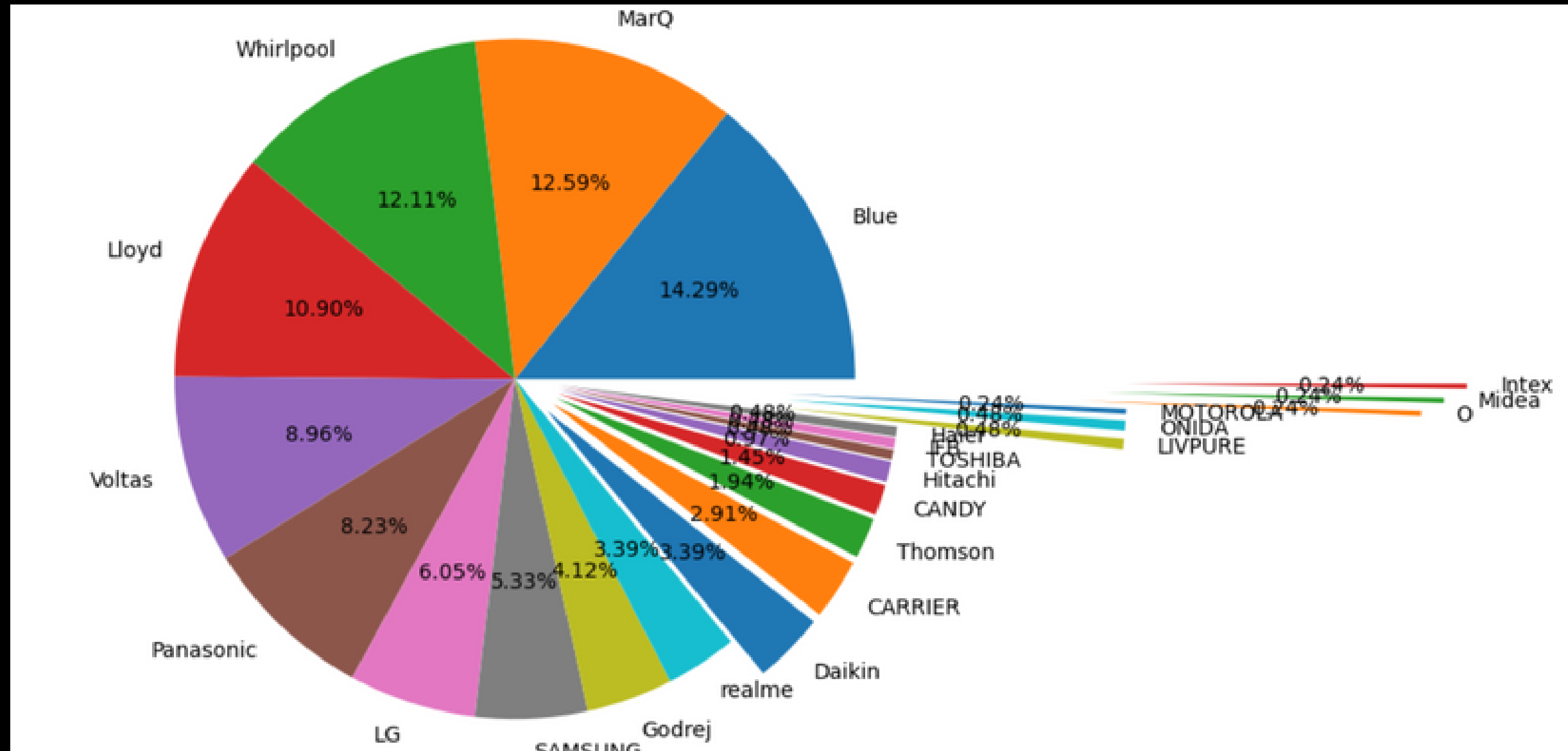
Gauge



Cardboard Chart

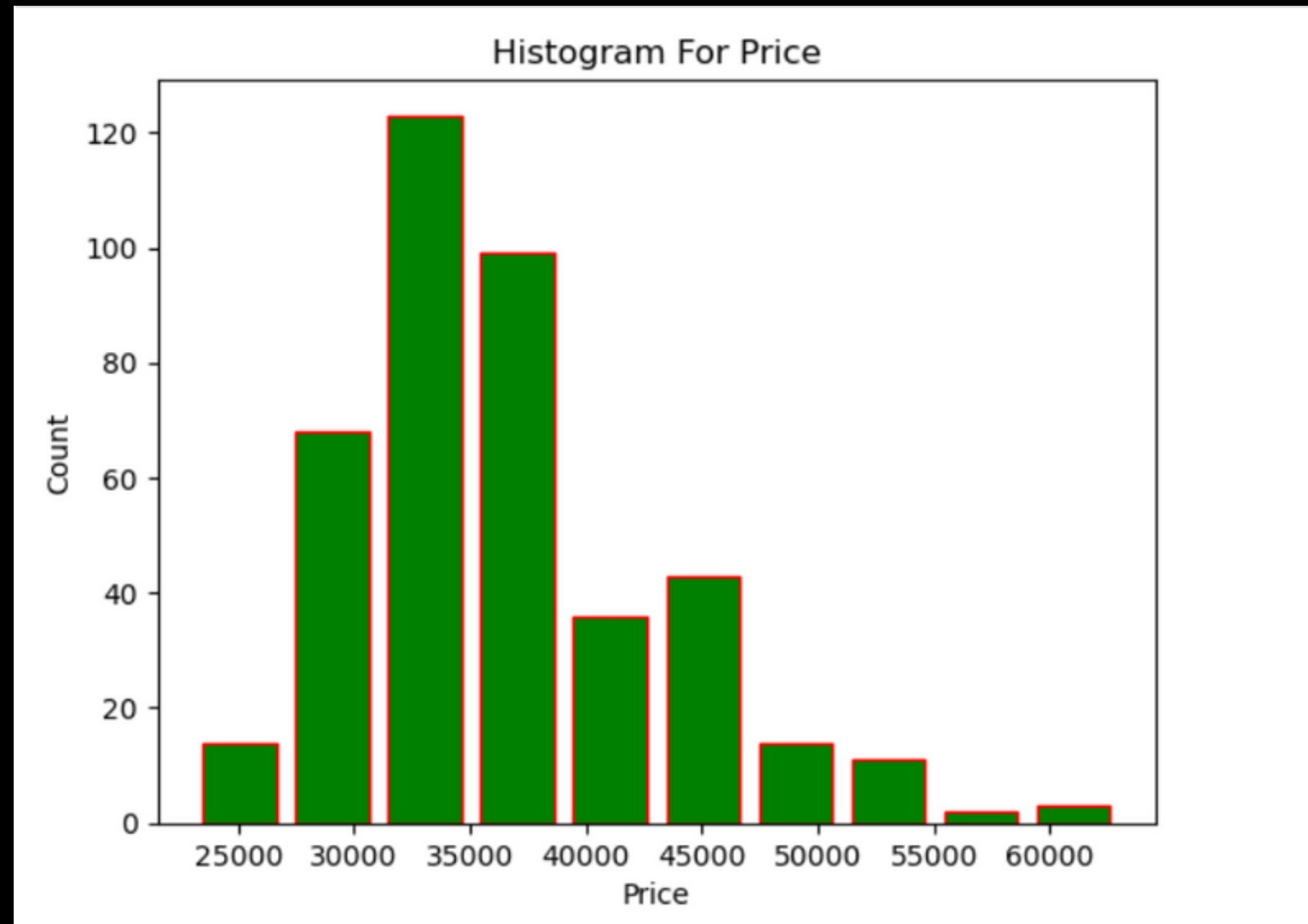


Pie chart on Which brand has how much percentage.



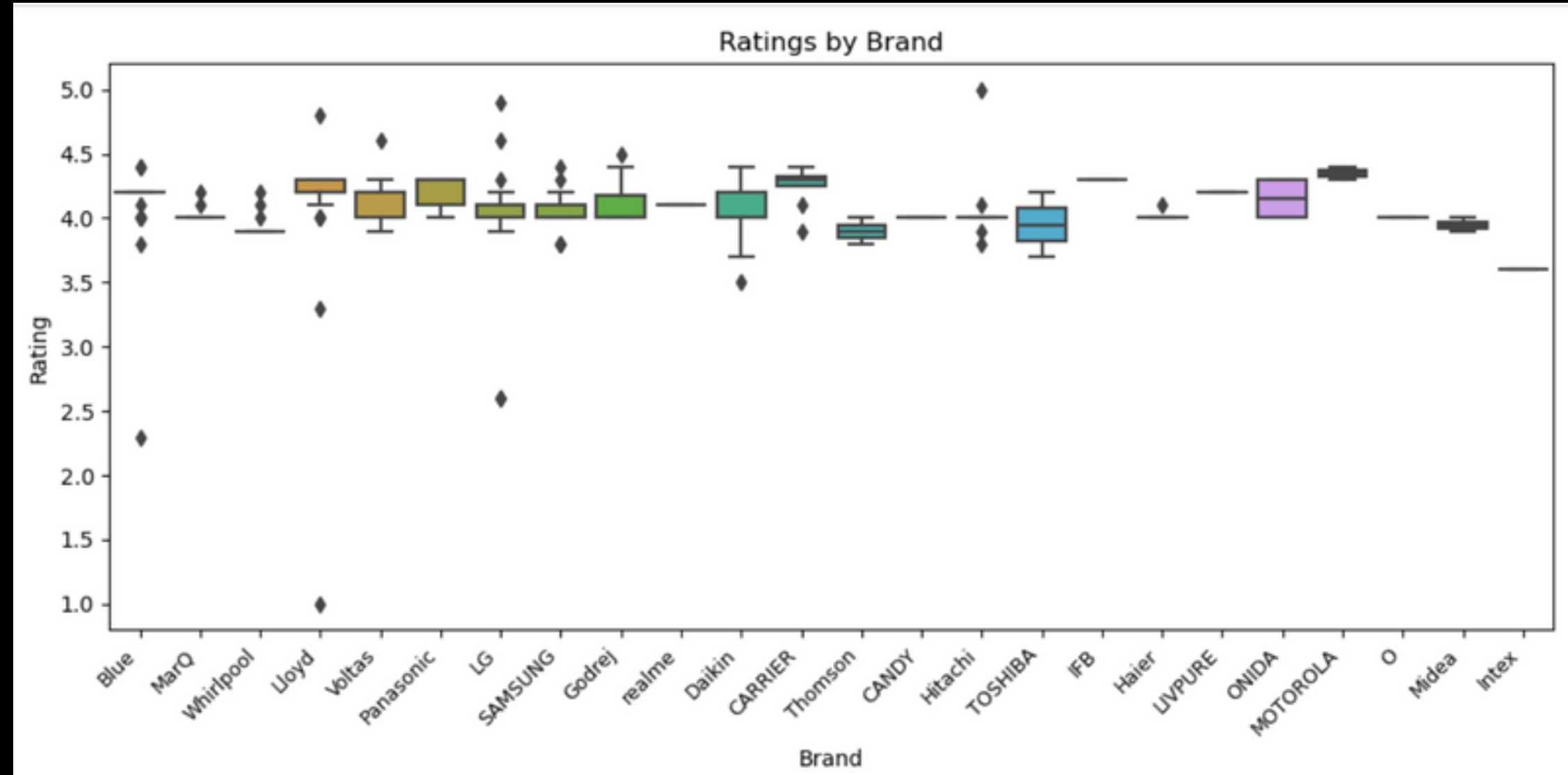
Observation : From the pie chart, we conclude there are 24 unique brands and the Blue (Brand) has highest percentage among the all brands.

Histogram for price



Observation : From the Histogram, we conclude that the average price of an ait conditioner is around 35,000

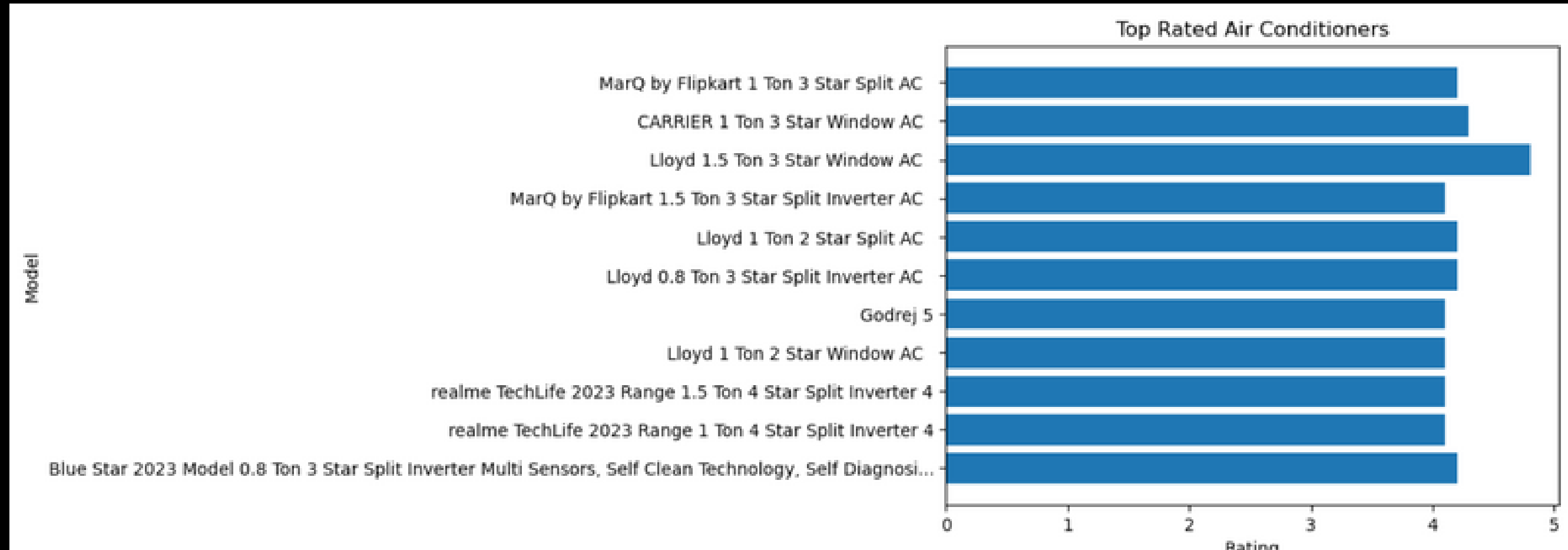
Air Conditioner Ratings by Brand



Observation :

- 1. Godrej is the most popular brand of air conditioner, with an average rating of 4.2 out of 5.**

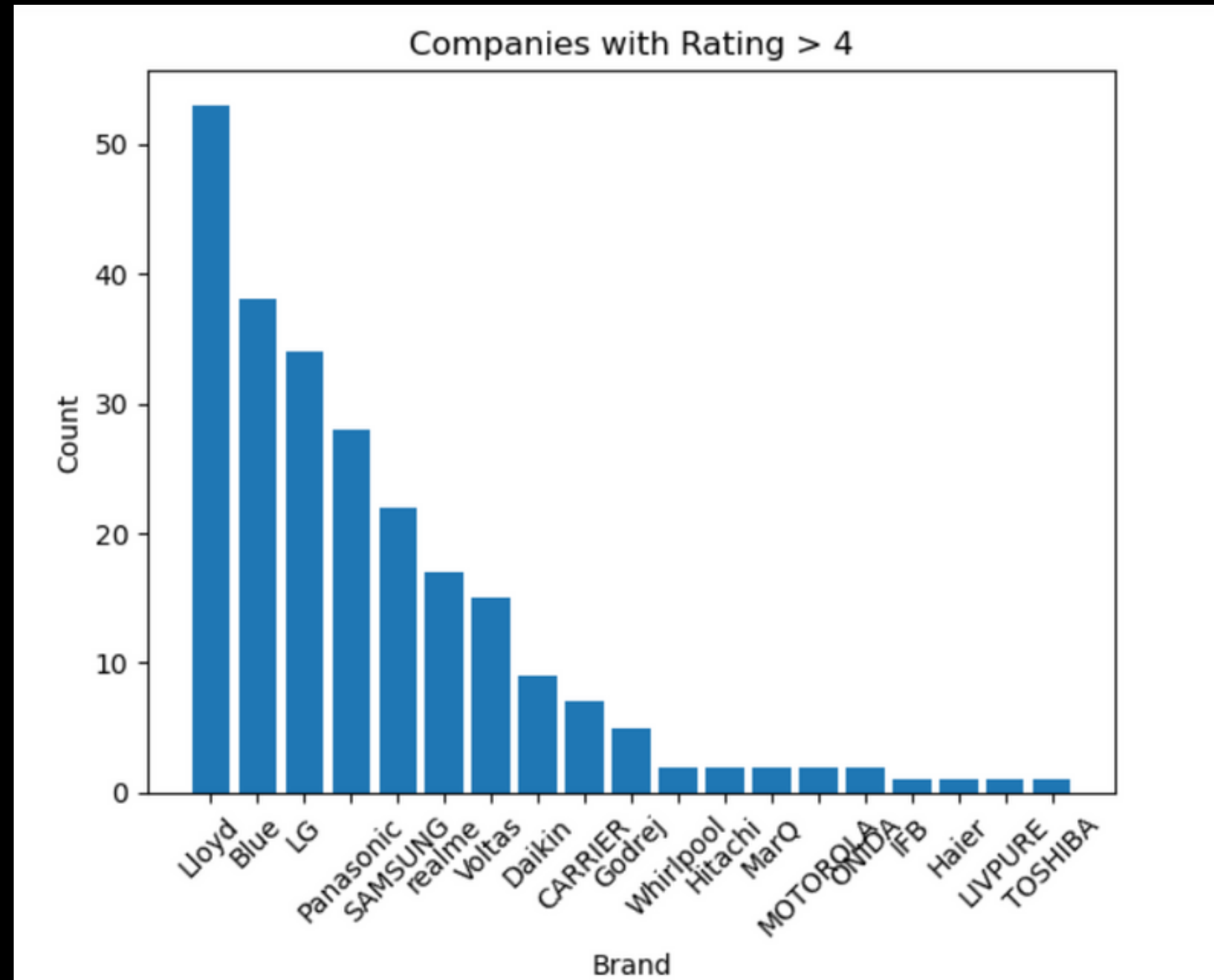
Top Rated Air Conditioner below 30k



Observation :

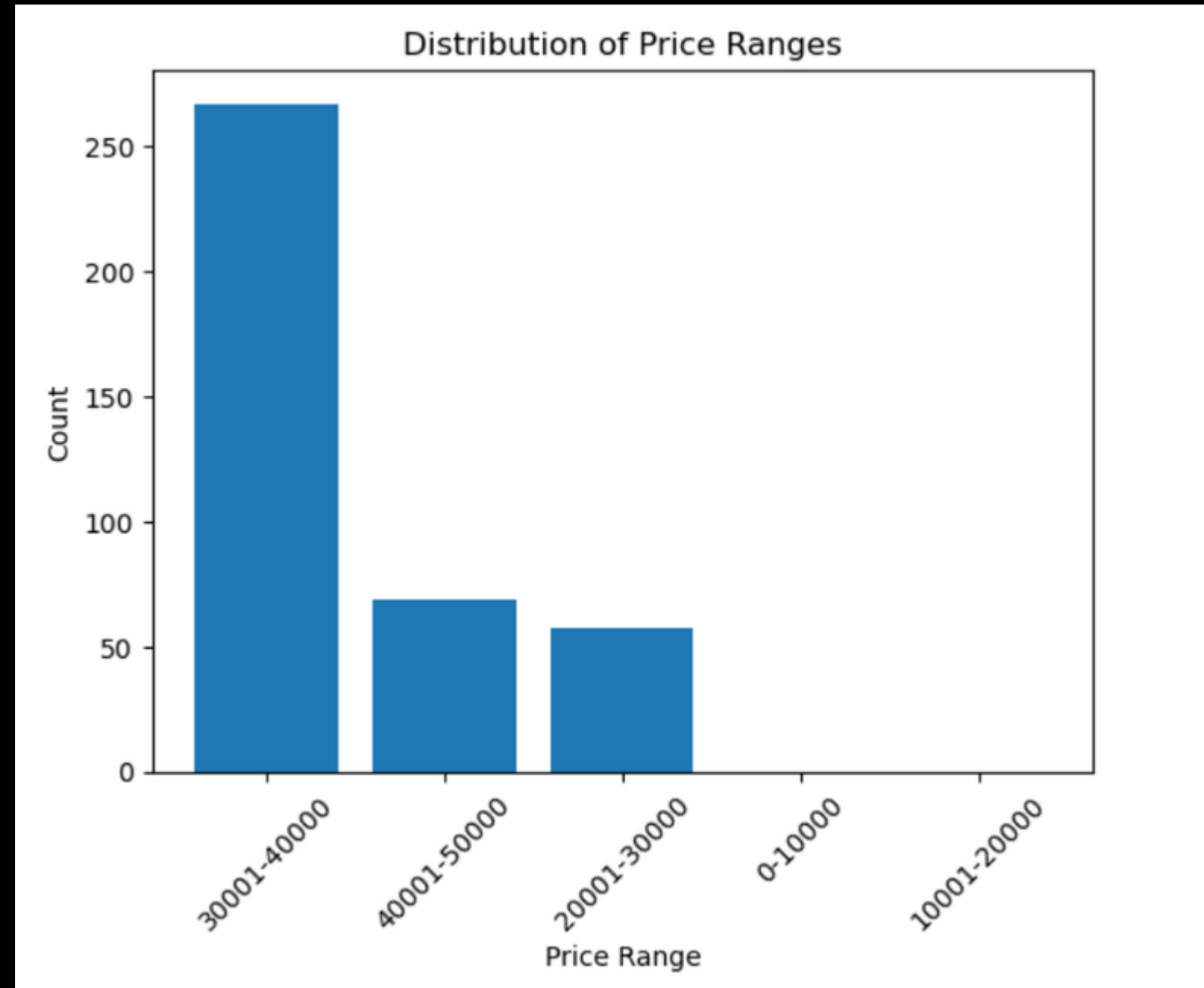
Lyod 1.5 Ton 3 star window AC . This air conditioner is a good choice for those looking for a budget-friendly option

The Companies with a rating of above 4



The bar graph shows that Lloyd is the most popular brand for air conditioners with a rating of 4 or above.

Most Popular Price Range for Air Conditioners



- The bar graph shows that the most popular price range for air conditioners is between 30,000 and 40,000.
- This information could be useful for consumers who are looking for an air conditioner in a specific price range

6

**THANK
YOU!**

Have a
great day
ahead.