

Analysis By Python.

# IPHONE SALES ANALYSIS

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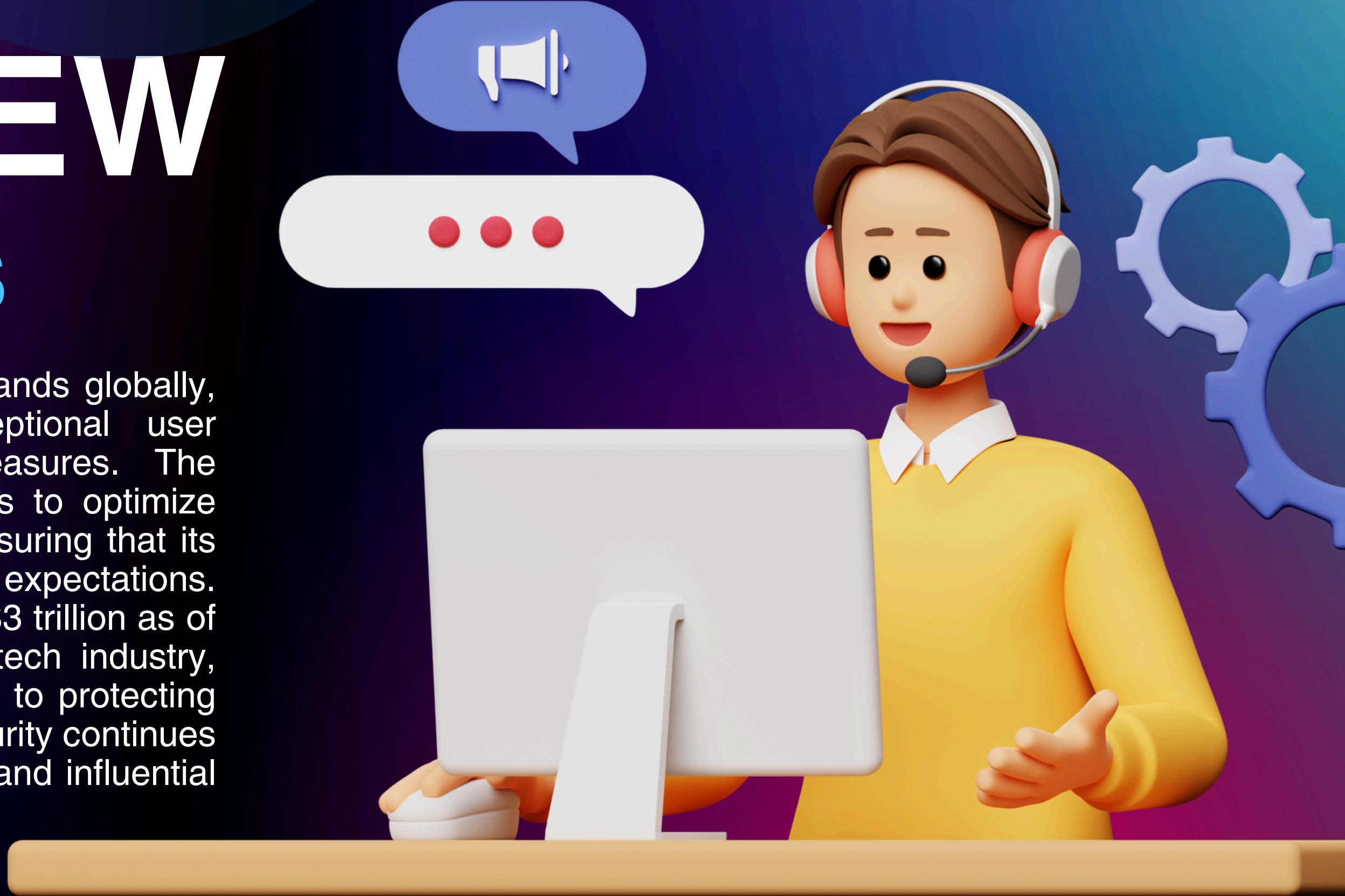
Presented by Jatin Sharma



# OVERVIEW

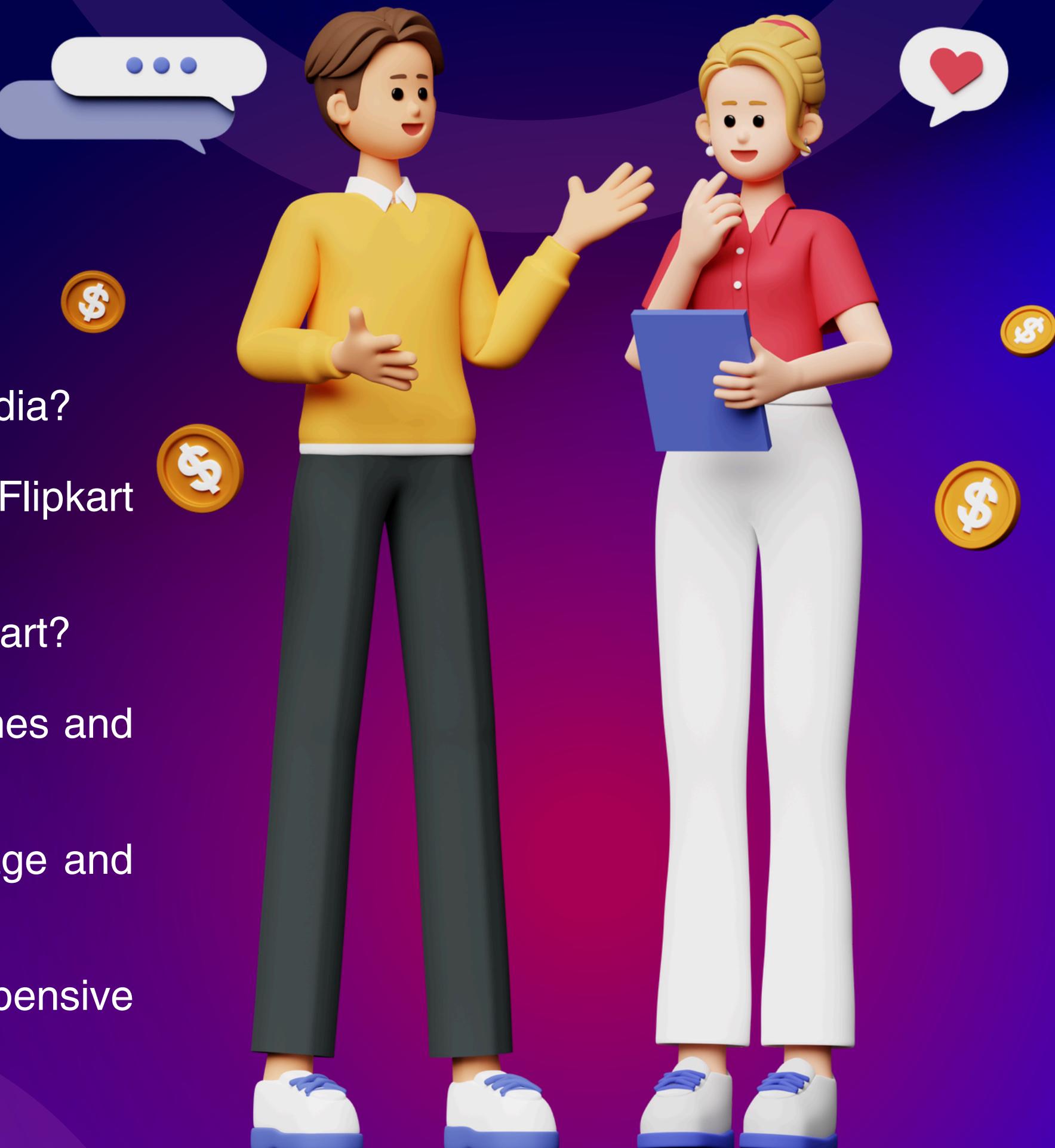
## IPHONE SALES

Apple is one of the most loved tech brands globally, renowned for its productivity, exceptional user experience, and strong privacy measures. The company leverages data-driven insights to optimize sales and make informed decisions, ensuring that its products consistently meet consumer expectations. With a market capitalization exceeding \$3 trillion as of 2024, Apple remains a leader in the tech industry, driven by innovation and a commitment to protecting user data. This focus on quality and security continues to solidify Apple's position as a trusted and influential brand worldwide.



# QUESTIONS TO BE SOLVED

- ) What are the top 10 highest-rated iPhones on Flipkart in India?
- 2) How many ratings do the highest-rated iPhones on Flipkart have? 
- 3) Which iPhone has the highest number of reviews on Flipkart?
- 4) What is the relationship between the sale price of iPhones and the number of ratings on Flipkart?
- 5) What is the relationship between the discount percentage and the number of ratings of iPhones on Flipkart?
- 6) Can you figure out the least expensive and most expensive iPhones in the Indian market, along with all their    



# DATA EXPLORATION

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```
[2]: import numpy as np  
import pandas as pd  
import plotly.express as px  
import plotly.graph_objects as go  
  
[3]: df = pd.read_csv("apple_products.csv")  
  
[4]: df.head()
```

"IMPORTING LIBRARY."

/user

```
[5]: #checking null values
```

```
[6]: df.isnull().sum()
```

```
[6]: Product Name      0  
Product URL        0  
Brand              0  
Sale Price         0  
Mrp                0  
Discount Percentage 0  
Number Of Ratings   0  
Number Of Reviews    0  
Upc                0  
Star Rating         0  
Ram                0  
dtype: int64
```

```
[7]: #no null values found
```

"THERE ARE NO NULL VALUES."

# DATA EXPLORATION

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## "DATA SET."

[4]:	Product Name	Product URL	Brand	Sale Price	Mrp	Discount Percentage	Number Of Ratings	Number Of Reviews	Upc	Star Rating	Ram
0	APPLE iPhone 8 Plus (Gold, 64 GB)	<a href="https://www.flipkart.com/apple-iphone-8-plus-g...">https://www.flipkart.com/apple-iphone-8-plus-g...</a>	Apple	49900	49900	0	3431	356	MOBEXRGV7EHHTGUH	4.6	2 GB
1	APPLE iPhone 8 Plus (Space Grey, 256 GB)	<a href="https://www.flipkart.com/apple-iphone-8-plus-s...">https://www.flipkart.com/apple-iphone-8-plus-s...</a>	Apple	84900	84900	0	3431	356	MOBEXRGVAC6TJT4F	4.6	2 GB
2	APPLE iPhone 8 Plus (Silver, 256 GB)	<a href="https://www.flipkart.com/apple-iphone-8-plus-s...">https://www.flipkart.com/apple-iphone-8-plus-s...</a>	Apple	84900	84900	.1	3 31	356	MOBEXRGVGETABXWZ	4.6	2 GB
3	APPLE iPhone 8 (Silver, 256 GB)	<a href="https://www.flipkart.com/apple-iphone-8-silver...">https://www.flipkart.com/apple-iphone-8-silver...</a>	Apple	77000	77000	0	11202	794	MOBEXRGVMZWUHCBA	4.5	2 GB
4	APPLE iPhone 8 (Gold, 256 GB)	<a href="https://www.flipkart.com/apple-iphone-8-gold-2...">https://www.flipkart.com/apple-iphone-8-gold-2...</a>	Apple	77000	77000	0	11202	794	MOBEXRGVPK7PFEJZ	4.5	2 GB

/user

# DATA EXPLORATION

"DESCRIBING THE DATA."

```
[9]: df.describe()
```

	Sale Price	Mrp	Discount Percentage	Number Of Ratings	Number Of Reviews	Star Rating
count	62.000000	62.000000	62.000000	62.000000	62.000000	62.000000
mean	80073.887097	88058.064516	9.951613	22420.403226	1861.677419	4.575806
std	34310.446132	34728.825597	7.608079	33768.589550	2855.883830	0.059190
min	29999.000000	39900.000000	0.000000	542.000000	42.000000	4.500000
25%	49900.000000	54900.000000	6.000000	740.000000	64.000000	4.500000
50%	75900.000000	79900.000000	10.000000	2101.000000	180.000000	4.600000
75%	117100.000000	120950.000000	14.000000	43470.000000	3331.000000	4.600000
max	140900.000000	149900.000000	29.000000	95909.000000	8161.000000	4.700000

# Q1. TOP 10 HIGHEST RATED IPHONES ON FLIPKART IN INDIA

```
highest_rating = df.sort_values(by = ['Star Rating'] , ascending = False)
highest_rating = highest_rating.head(10)
```

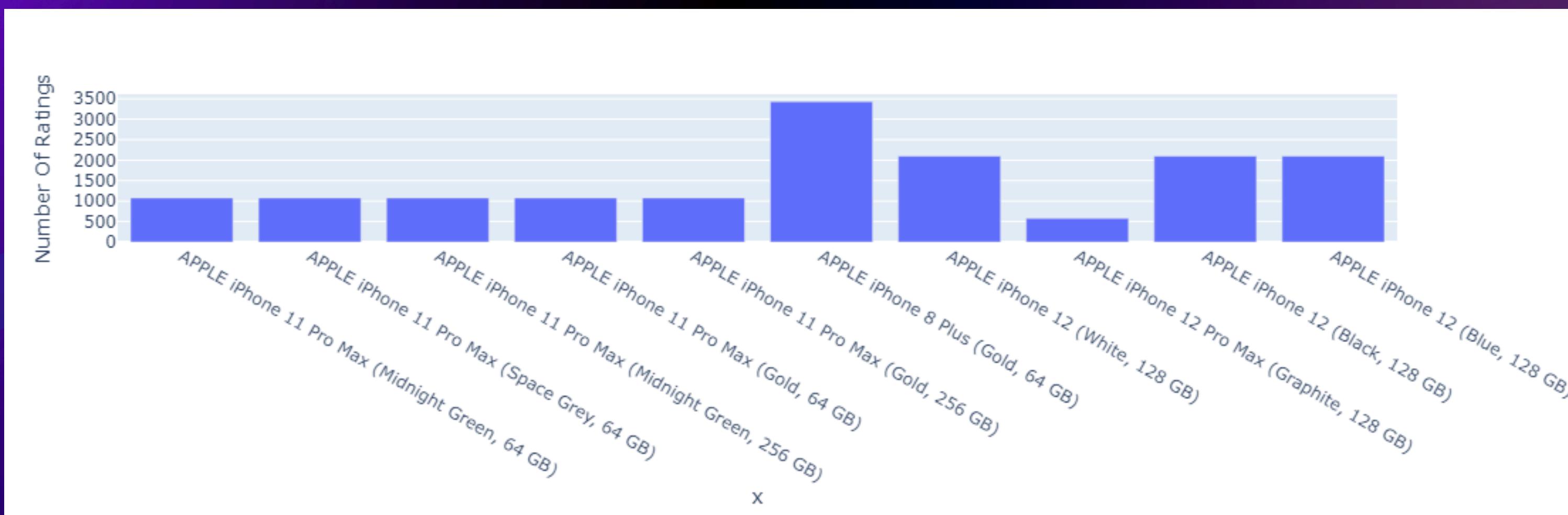
```
print(highest_rating['Product Name'])
```

```
20      APPLE iPhone 11 Pro Max (Midnight Green, 64 GB)
17      APPLE iPhone 11 Pro Max (Space Grey, 64 GB)
16      APPLE iPhone 11 Pro Max (Midnight Green, 256 GB)
15      APPLE iPhone 11 Pro Max (Gold, 64 GB)
14      APPLE iPhone 11 Pro Max (Gold, 256 GB)
0       APPLE iPhone 8 Plus (Gold, 64 GB)
29      APPLE iPhone 12 (White, 128 GB)
32      APPLE iPhone 12 Pro Max (Graphite, 128 GB)
35      APPLE iPhone 12 (Silver, 128 GB)
36      APPLE iPhone 12 (Blue, 128 GB)
```

Name: Product Name, dtype: object

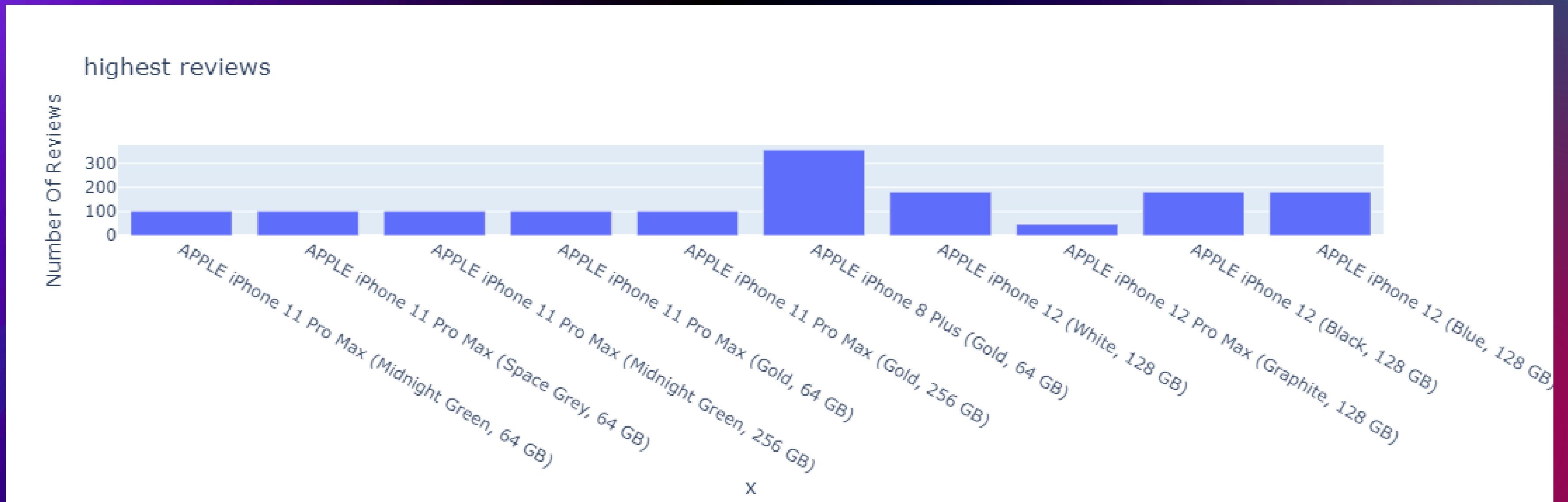
## Q.2 HOW MANY RATINGS DO THE HIGHEST-RATED IPHONES ON FLIPKART HAVE?

```
apple = highest_rating['Product Name'].value_counts()  
label = apple.index  
counts = highest_rating["Number Of Ratings"]  
figure = px.bar(highest_rating , x=label , y=counts)  
  
# Set the interval for y-axis ticks to 500  
  
figure.update_layout(  
    yaxis=dict(  
        dtick=500))  
figure.show()
```



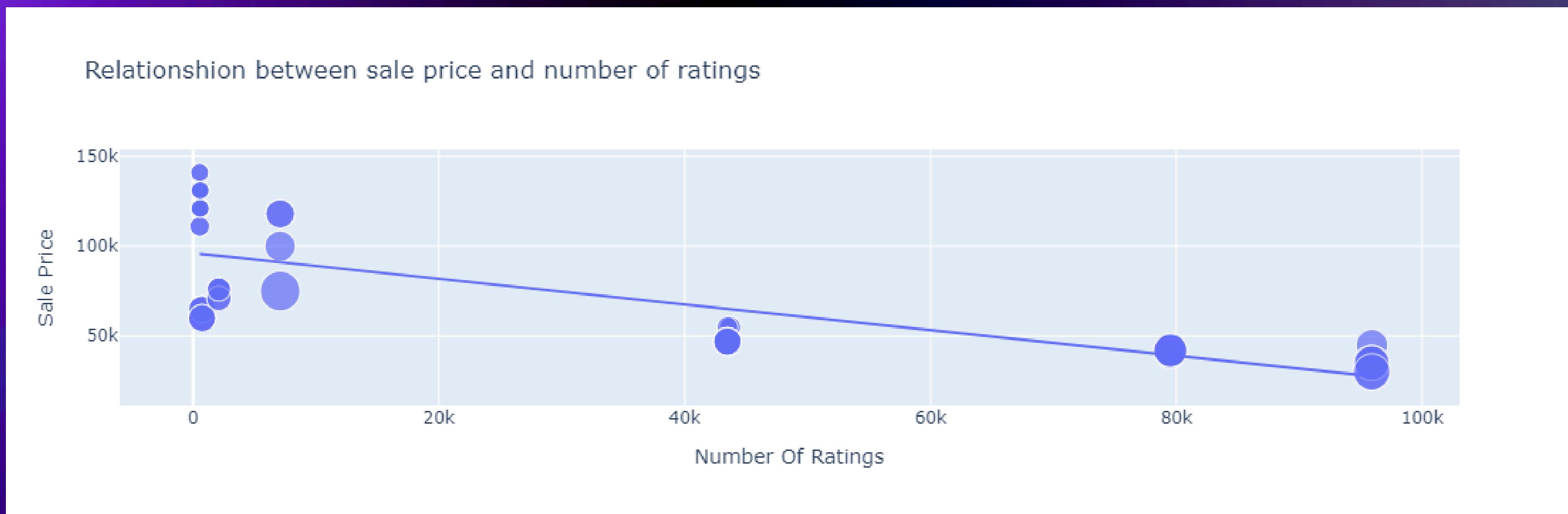
### Q3. WHICH IPHONE HAS THE HIGHEST NUMBERS OF REVIEW ON FLIPKART??

```
apple = highest_rating['Product Name'].value_counts()  
label = apple.index  
counts = highest_rating["Number Of Reviews"]  
figure = px.bar(highest_rating , x=label , y=counts , title = "highest reviews")  
figure.show()
```



# Q4. WHAT IS THE RELATIONSHIP BETWEEN THE SALE PRICE OF IPHONE AND NUMBER OF RATINGS ON FLIPKART ??

```
figure = px.scatter(data_frame = df , x = "Number Of Ratings" ,  
                     y = "Sale Price" , size = "Discount Percentage" , trendline = "ols"  
                     title = "Relationship between sale price and number of ratings")  
  
figure.show()
```



## Q5. WHAT IS THE RELATIONSHIP BETWEEN DISCOUNT PERCENTAGE AND NUMBERS OF RATING ON FLIPKART?

```
figure = px.scatter(data_frame = df , x = "Number Of Ratings" ,  
y = "Discount Percentage" , size = "Sale Price" , trendline = "ols" ,  
title = "Relationshion between sale price and number of ratings")  
  
figure.show()
```



**Q6.FIGURE OUT THE LEAST EXPENSIVE AND THE MOST EXPENSIVE IPHONE IN INDIAN MARKET ALONG WITH THEIR ALL SPECIFICATIONS ??**

```
most_expensive = df.loc[df['Sale Price'].idxmax()]
least_expensive = df.loc[df['Sale Price'].idxmin()]

print("most expensive product:")
print(most_expensive)

print("least expensive product:")
print(least_expensive)
```

# Q6. FIGURE OUT THE LEAST EXPENSIVE AND THE MOST EXPENSIVE IPHONE IN INDIAN MARKET ALONG WITH THEIR ALL SPECIFICATIONS ??

## LEAST EXPENSIVE

least expensive product:

Product Name	APPLE iPhone SE (White, 64 GB)
Product URL	<a href="https://www.flipkart.com/apple-iphone-se-white...">https://www.flipkart.com/apple-iphone-se-white...</a>
Brand	Apple
Sale Price	29999
Mrp	39900
Discount Percentage	24
Number Of Ratings	95807
Number Of Reviews	8154
Upc	MOBFWQ6BGWDVGF3E
Star Rating	4.5
Ram	2 GB

Name: 52, dtype: object

## MOST EXPENSIVE

most expensive product:

Product Name	APPLE iPhone 12 Pro (Silver, 512 GB)
Product URL	<a href="https://www.flipkart.com/apple-iphone-12-pro-s...">https://www.flipkart.com/apple-iphone-12-pro-s...</a>
Brand	Apple
Sale Price	140900
Mrp	149900
Discount Percentage	6
Number Of Ratings	542
Number Of Reviews	42
Upc	MOBFWBYZ5UY6ZBVA
Star Rating	4.5
Ram	4 GB

Name: 24, dtype: object

# THANK YOU SO MUCH

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I analyzed iPhone sales data, revealing key trends in sales growth, customer preferences, and seasonal fluctuations, providing insights for future marketing strategies."



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