

```
In [3]: import pandas as pd
import numpy as np
import plotly.express as px
import plotly.graph_objects as go
```

```
In [6]: data=pd.read_csv("apple_products (1).csv")
```

```
In [7]: data
```

Out[7]:

	Product Name	Product URL	Brand	Sale Price	Mrp	Discount Percentage	Number Of Ratings	Number Of Reviews
0	APPLE iPhone 8 Plus (Gold, 64 GB)	https://www.flipkart.com/apple-iphone-8-plus-g...	Apple	49900	49900	0	3431	356
1	APPLE iPhone 8 Plus (Space Grey, 256 GB)	https://www.flipkart.com/apple-iphone-8-plus-s...	Apple	84900	84900	0	3431	356
2	APPLE iPhone 8 Plus (Silver, 256 GB)	https://www.flipkart.com/apple-iphone-8-plus-s...	Apple	84900	84900	0	3431	356
3	APPLE iPhone 8 (Silver, 256 GB)	https://www.flipkart.com/apple-iphone-8-silver...	Apple	77000	77000	0	11202	794
4	APPLE iPhone 8 (Gold, 256 GB)	https://www.flipkart.com/apple-iphone-8-gold-2...	Apple	77000	77000	0	11202	794
...
57	APPLE iPhone SE (Black, 64 GB)	https://www.flipkart.com/apple-iphone-se-black...	Apple	29999	39900	24	95909	8161
58	APPLE iPhone 11 (Purple, 64 GB)	https://www.flipkart.com/apple-iphone-11-purpl...	Apple	46999	54900	14	43470	3331
59	APPLE iPhone 11 (White, 64 GB)	https://www.flipkart.com/apple-iphone-11-white...	Apple	46999	54900	14	43470	3331
60	APPLE iPhone 11 (Black, 64 GB)	https://www.flipkart.com/apple-iphone-11-black...	Apple	46999	54900	14	43470	3331
61	APPLE iPhone 11 (Red, 64 GB)	https://www.flipkart.com/apple-iphone-11-red-6...	Apple	46999	54900	14	43470	3331

62 rows × 11 columns



```
In [9]: print(data.isnull().sum())
```

```
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
```

```
In [10]: print(data.describe())
```

```
count      Sale Price      Mrp  Discount Percentage  Number Of Ratings \
mean    80073.887097  88058.064516      9.951613      22420.403226
std     34310.446132  34728.825597      7.608079      33768.589550
min     29999.000000  39900.000000      0.000000      542.000000
25%     49900.000000  54900.000000      6.000000      740.000000
50%     75900.000000  79900.000000     10.000000     2101.000000
75%    117100.000000 120950.000000     14.000000     43470.000000
max    140900.000000 149900.000000     29.000000     95909.000000

count      Number Of Reviews  Star Rating
mean         1861.677419      4.575806
std          2855.883830      0.059190
min           42.000000      4.500000
25%           64.000000      4.500000
50%          180.000000      4.600000
75%          3331.000000      4.600000
max           8161.000000      4.700000
```

Top RAting Iphone Sale in india

```
In [21]: highest_rating = data.sort_values(by=["Star Rating"],ascending=False)
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In [23]: highest_rated=highest_rating.head(10)
```

```
In [26]: highest_rated
print(highest_rated["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 (Black, 128 GB)
36    APPLE iPhone 12 (Blue, 128 GB)
Name: Product Name, dtype: object
```

```
In [37]: iphone = highest_rated["Product Name"].value_counts()
labels = iphone.index
count = highest_rated['Number Of Ratings']
```

```
figure = px.bar(highest_rated , x=labels, y=count, title='No of ratings of highest  
figure.show()
```

```
In [38]: iphone = highest_rated["Product Name"].value_counts()  
labels1 = iphone.index  
count1 = highest_rated['Number Of Reviews']  
figure = px.bar(highest_rated , x=labels1, y=count1, title='No of ratings of highest  
figure.show()
```

```
In [42]: figure = px.scatter(data_frame = data , x="Number Of Ratings", y="Sale Price", size  
figure.show()
```

