

```
In [1]: pip install pandas
Requirement already satisfied: pandas in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (2.1.3)
Requirement already satisfied: numpy<2, >=1.23.2 in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (from pandas) (1.26.2)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (from pandas) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (from pandas) (2023.3)
Requirement already satisfied: six>=1.5 in c:\users\pc\appdata\local\programs\python\python311\lib\site-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
[notice] A new release of pip available: 22.3.1 -> 23.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip

In [2]: import pandas as pd

In [4]: df = pd.read_csv("apple_products.csv")

In [5]: df.head()

Out[5]:
   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)  https://www.flipkart.com/apple-iphone-8-plus-g...  Apple  49900  49900  0  3431  356  MOBEXRGV7EHHTGUH  4.6  2 GB
1  APPLE iPhone 8 Plus (Space Grey, 256 GB)  https://www.flipkart.com/apple-iphone-8-plus-s...  Apple  84900  84900  0  3431  356  MOBEXRGVAC6TJT4F  4.6  2 GB
2  APPLE iPhone 8 Plus (Silver, 256 GB)  https://www.flipkart.com/apple-iphone-8-plus-s...  Apple  84900  84900  0  3431  356  MOBEXRGVGETABXWZ  4.6  2 GB
3  APPLE iPhone 8 (Silver, 256 GB)  https://www.flipkart.com/apple-iphone-8-silver...  Apple  77000  77000  0  11202  794  MOBEXRGVMZWHUCBA  4.5  2 GB
4  APPLE iPhone 8 (Gold, 256 GB)  https://www.flipkart.com/apple-iphone-8-gold-2...  Apple  77000  77000  0  11202  794  MOBEXRGVPK7PFEJZ  4.5  2 GB

In [6]: df.count()

Out[6]:
Product Name      62
Product URL      62
Brand            62
Sale Price       62
Mrp              62
Discount Percentage  62
Number Of Ratings  62
Number Of Reviews  62
Upc              62
Star Rating      62
Ram              62
dtype: int64

In [7]: df['Mrp'].max()

Out[7]: 149900

In [8]: df['Mrp'].min()

Out[8]: 39900

In [9]: df[df['Mrp']==149900]

Out[9]:
   Product Name  Product URL  Brand  Sale Price  Mrp  Discount Percentage  Number Of Ratings  Number Of Reviews  Upc  Star Rating  Ram
24  APPLE iPhone 12 Pro (Silver, 512 GB)  https://www.flipkart.com/apple-iphone-12-pro-s...  Apple  140900  149900  6  542  42  MOBFWBYZ5UY6ZBVA  4.5  4 GB
41  APPLE iPhone 12 Pro (Pacific Blue, 512 GB)  https://www.flipkart.com/apple-iphone-12-pro-p...  Apple  140900  149900  6  545  42  MOBFWBYZTHSXKMGW  4.5  4 GB

In [10]: df[df['Mrp']==39900]

Out[10]:
   Product Name  Product URL  Brand  Sale Price  Mrp  Discount Percentage  Number Of Ratings  Number Of Reviews  Upc  Star Rating  Ram
52  APPLE iPhone SE (White, 64 GB)  https://www.flipkart.com/apple-iphone-se-white...  Apple  29999  39900  24  95807  8154  MOBFWQ6BGWDVGF3E  4.5  2 GB
57  APPLE iPhone SE (Black, 64 GB)  https://www.flipkart.com/apple-iphone-se-black...  Apple  29999  39900  24  95909  8161  MOBFWQ6BR3MK7AUG  4.5  4 GB

In [13]: df[df['Mrp']>=100000]

Out[13]:
   Product Name  Product URL  Brand  Sale Price  Mrp  Discount Percentage  Number Of Ratings  Number Of Reviews  Upc  Star Rating  Ram
14  APPLE iPhone 11 Pro Max (Gold, 256 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  131900  131900  0  1078  101  MOBFKCTS7HCHSPFH  4.7  4 GB
15  APPLE iPhone 11 Pro Max (Gold, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSAPAYNSGG  4.7  4 GB
16  APPLE iPhone 11 Pro Max (Midnight Green, 256 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  131900  131900  0  1078  101  MOBFKCTSCAAKGQV7  4.7  4 GB
17  APPLE iPhone 11 Pro Max (Space Grey, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSKDMKCGQS  4.7  4 GB
18  APPLE iPhone 11 Pro (Midnight Green, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  74999  106600  29  7088  523  MOBFKCTSN3TG3RFJ  4.6  4 GB
19  APPLE iPhone 11 Pro (Space Grey, 512 GB)  https://www.flipkart.com/apple-iphone-11-pro-s...  Apple  117900  140300  15  7088  523  MOBFKCTSRTHRQFTT  4.6  4 GB
20  APPLE iPhone 11 Pro Max (Midnight Green, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSRYPAQNYT  4.7  4 GB
21  APPLE iPhone 11 Pro (Midnight Green, 512 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117900  140300  15  7088  523  MOBFKCTSSJCWYGCC  4.6  4 GB
22  APPLE iPhone 11 Pro (Space Grey, 256 GB)  https://www.flipkart.com/apple-iphone-11-pro-s...  Apple  99900  121300  17  7081  522  MOBFKCTSWGYSAS9X  4.6  4 GB
24  APPLE iPhone 12 Pro (Silver, 512 GB)  https://www.flipkart.com/apple-iphone-12-pro-s...  Apple  140900  149900  6  542  42  MOBFWBYZ5UY6ZBVA  4.5  4 GB
25  APPLE iPhone 12 Pro Max (Pacific Blue, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  130900  139900  6  580  45  MOBFWBYZ8STJXCVT  4.6  6 GB
27  APPLE iPhone 12 Pro (Graphite, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-g...  Apple  120900  129900  6  545  42  MOBFWBYZBA36UB7G  4.5  6 GB
30  APPLE iPhone 12 Pro (Graphite, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-g...  Apple  110900  119900  7  545  42  MOBFWBYZBZ7Y56WD  4.5  6 GB
31  APPLE iPhone 12 Pro Max (Graphite, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  130900  139900  6  580  45  MOBFWBYZEF6XQ5ZW  4.6  6 GB
32  APPLE iPhone 12 Pro Max (Graphite, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  120900  129900  6  580  45  MOBFWBYZFDGQSDWS  4.6  6 GB
37  APPLE iPhone 12 Pro Max (Silver, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  120900  129900  6  580  45  MOBFWBYZNSNVGGZC  4.6  6 GB
39  APPLE iPhone 12 Pro Max (Gold, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  120900  129900  6  580  45  MOBFWBYZQVK7T77YH  4.6  6 GB
41  APPLE iPhone 12 Pro (Pacific Blue, 512 GB)  https://www.flipkart.com/apple-iphone-12-pro-p...  Apple  140900  149900  6  545  42  MOBFWBYZTHSXKMGW  4.5  4 GB
46  APPLE iPhone 12 Pro (Pacific Blue, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-p...  Apple  110900  119900  7  545  42  MOBFWBYZXYSCEEH  4.5  6 GB
47  APPLE iPhone 12 Pro Max (Pacific Blue, 128 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  120900  129900  6  580  45  MOBFWBYZZABKHZQA  4.6  6 GB
48  APPLE iPhone 12 Pro Max (Silver, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  130900  139900  6  580  45  MOBFWBYZZH4AM8FE  4.6  6 GB
49  APPLE iPhone 12 Pro Max (Gold, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-m...  Apple  130900  139900  6  580  45  MOBFWBYZZPW8JHQF  4.6  6 GB

In [14]: list(df['Product Name'])[0].upper()

Out[14]: 'APPLE IPHONE 8 PLUS (GOLD, 64 GB)'

In [15]: list(df['Product Name'])[0].lower()

Out[15]: 'apple iphone 8 plus (gold, 64 gb)'

In [16]: list(df['Product Name'])[51][6:15].upper().strip()

Out[16]: 'IPHONE 11'

In [17]: df['Model Name'] = df['Product Name'].str[6:15]

In [18]: df.head()

Out[18]:
   Product Name  Product URL  Brand  Sale Price  Mrp  Discount Percentage  Number Of Ratings  Number Of Reviews  Upc  Star Rating  Ram  Model Name
0  APPLE iPhone 8 Plus (Gold, 64 GB)  https://www.flipkart.com/apple-iphone-8-plus-g...  Apple  49900  49900  0  3431  356  MOBEXRGV7EHHTGUH  4.6  2 GB  iPhone 8
1  APPLE iPhone 8 Plus (Space Grey, 256 GB)  https://www.flipkart.com/apple-iphone-8-plus-s...  Apple  84900  84900  0  3431  356  MOBEXRGVAC6TJT4F  4.6  2 GB  iPhone 8
2  APPLE iPhone 8 Plus (Silver, 256 GB)  https://www.flipkart.com/apple-iphone-8-plus-s...  Apple  84900  84900  0  3431  356  MOBEXRGVGETABXWZ  4.6  2 GB  iPhone 8
3  APPLE iPhone 8 (Silver, 256 GB)  https://www.flipkart.com/apple-iphone-8-silver...  Apple  77000  77000  0  11202  794  MOBEXRGVMZWHUCBA  4.5  2 GB  iPhone 8
4  APPLE iPhone 8 (Gold, 256 GB)  https://www.flipkart.com/apple-iphone-8-gold-2...  Apple  77000  77000  0  11202  794  MOBEXRGVPK7PFEJZ  4.5  2 GB  iPhone 8

In [19]: df.sort_values(by=['Star Rating'], ascending = False)

Out[19]:
   Product Name  Product URL  Brand  Sale Price  Mrp  Discount Percentage  Number Of Ratings  Number Of Reviews  Upc  Star Rating  Ram  Model Name
20  APPLE iPhone 11 Pro Max (Midnight Green, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSRYPAQNYT  4.7  4 GB  iPhone 11
17  APPLE iPhone 11 Pro Max (Space Grey, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSKDMKCGQS  4.7  4 GB  iPhone 11
16  APPLE iPhone 11 Pro Max (Midnight Green, 256 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  131900  131900  0  1078  101  MOBFKCTSCAAKGQV7  4.7  4 GB  iPhone 11
15  APPLE iPhone 11 Pro Max (Gold, 64 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  117100  117100  0  1078  101  MOBFKCTSAPAYNSGG  4.7  4 GB  iPhone 11
14  APPLE iPhone 11 Pro Max (Gold, 256 GB)  https://www.flipkart.com/apple-iphone-11-pro-m...  Apple  131900  131900  0  1078  101  MOBFKCTS7HCHSPFH  4.7  4 GB  iPhone 11
...  ...  ...  ...  ...  ...  ...  ...  ...  ...  ...  ...
45  APPLE iPhone 12 Mini (Black, 64 GB)  https://www.flipkart.com/apple-iphone-12-mini-...  Apple  59900  69900  14  740  64  MOBFWBYZXSEGBS6F  4.5  4 GB  iPhone 12
28  APPLE iPhone 12 Mini (White, 64 GB)  https://www.flipkart.com/apple-iphone-12-mini-...  Apple  59900  69900  14  740  64  MOBFWBYZBH4CEC4C  4.5  4 GB  iPhone 12
23  Apple iPhone SE (White, 256 GB) (Includes EarP...  https://www.flipkart.com/apple-iphone-se-white...  Apple  44999  54900  18  95909  8161  MOBFRFXHPZCHAFEH  4.5  2 GB  iPhone SE
41  APPLE iPhone 12 Pro (Pacific Blue, 512 GB)  https://www.flipkart.com/apple-iphone-12-pro-p...  Apple  140900  149900  6  545  42  MOBFWBYZTHSXKMGW  4.5  4 GB  iPhone 12
27  APPLE iPhone 12 Pro (Graphite, 256 GB)  https://www.flipkart.com/apple-iphone-12-pro-g...  Apple  120900  129900  6  545  42  MOBFWBYZBA36UB7G  4.5  6 GB  iPhone 12
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62 rows × 12 columns

In []:

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