

ALL GRANING



```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt

df1 = pd.read_excel('/content/drive/MyDrive/ARRAY .xlsx')
data = df1.values.tolist()

a = df1['name']
b = df1['marks']

df1.marks = df1.marks.astype('int64')

d = df1['name'][df1.marks > 50]

def student(a,b):
    print('student :', a, b)
    student(a,b)
```

 student : 0    A  
1    B

```
student : 0      A
1      B
2      C
3      D
4      E
5      F
6      G
7      H
8      I
9      J
10     K
11     L
12     M
Name: name, dtype: object 0      20
1      30
2      20
3      40
4      50
5      60
6      52
7      80
8      63
9      26
10     23
11     28
12     90
Name: marks, dtype: int64
```

[ ]



## # GROUP BY

```
a = df1.groupby('name')['marks'].count()==2
b = df1.groupby('name')['marks'].head()
print(a)
print(b)
```

```
name
A    False
B    False
C    False
D    False
E    False
F    False
G    False
H    False
I    False
J    False
K    False
L    False
M    False
Name: marks, dtype: bool
0      20
1      30
2      20
3      40
```

All Graining - Colaboratory

colab.research.google.com/drive/1A7k78wihlU7JkjeAmp6fkZpWLYMIqvHe?authuser=1#scrollTo=6-Pf6FH6qTW0

All Graining

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MFalse

Name: marks, dtype: bool

020

130

220

340

450

560

652

780

863

926

1023

1128

1290

Name: marks, dtype: int64

[ ]

# ARRAY AND GRAPH

import numpy as np

import matplotlib.pyplot as plt

array = np.array(df1)

# Extract two specific columns as separate arrays

x = np.array(df1["name"])

y = np.array(df1["marks"])

# Print the entire array

```
[ ] # ARRAY AND GRAPH
import numpy as np
import matplotlib.pyplot as plt

array = np.array(df1)

# Extract two specific columns as separate arrays
x = np.array(df1["name"])
y = np.array(df1["marks"])

# Print the entire array
print(array)

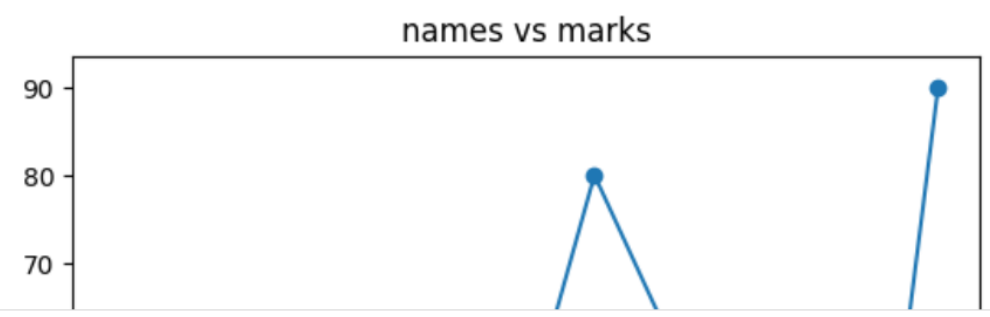
# Print the extracted column arrays
print(x)
print(y)

# Plot the data
plt.plot(x, y, marker="o")
plt.xlabel("name")
plt.ylabel("marks")
plt.title("names vs marks")

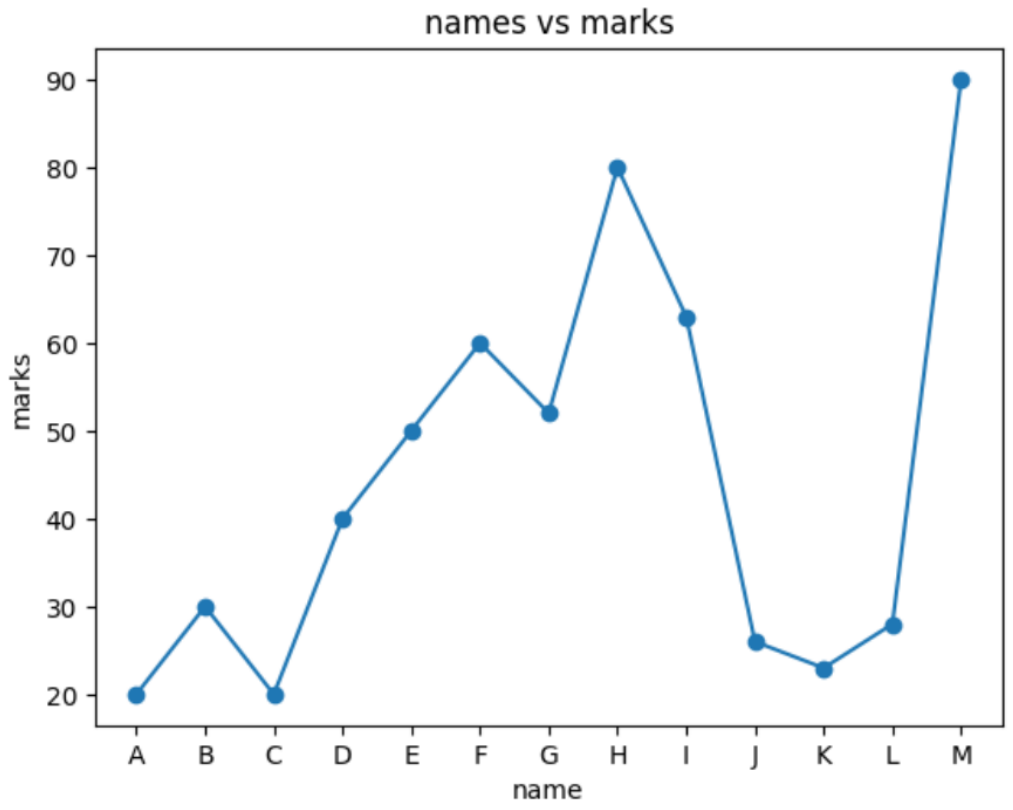
[['A' 1 20]
 ['B' 2 30]]
```

```
[ ] plt.ylabel("marks")  
    plt.title("names vs marks")
```

```
[[ 'A' 1 20]  
 [ 'B' 2 30]  
 [ 'C' 3 20]  
 [ 'D' 4 40]  
 [ 'E' 5 50]  
 [ 'F' 6 60]  
 [ 'G' 7 52]  
 [ 'H' 8 80]  
 [ 'I' 9 63]  
 [ 'J' 10 26]  
 [ 'K' 11 23]  
 [ 'L' 12 28]  
 [ 'M' 13 90]]  
[ 'A' 'B' 'C' 'D' 'E' 'F' 'G' 'H' 'I' 'J' 'K' 'L' 'M']  
[20 30 20 40 50 60 52 80 63 26 23 28 90]  
Text(0.5, 1.0, 'names vs marks')
```



```
[ 'A' 'B' 'C' 'D' 'E' 'F' 'G' 'H' 'I' 'J' 'K' 'L' 'M' ]  
[20 30 20 40 50 60 52 80 63 26 28 90]  
Text(0.5, 1.0, 'names vs marks')
```



```
[ ] # ARRAY STACKING
e = np.hstack(array)
print(e)
```

```
['A' 1 20 'B' 2 30 'C' 3 20 'D' 4 40 'E' 5 50 'F' 6 60 'G' 7 52 'H' 8 80
'I' 9 63 'J' 10 26 'K' 11 23 'L' 12 28 'M' 13 90]
```

```
[ ] # AGGRIGATION
A1 = df1.aggregate(['sum', 'min', 'max'])
print(A1)
```

	name	roll no.	marks
sum	ABCDEFGHIJKLM	91	582
min	A	1	20
max	M	13	90

```
[ ] # CUSTOM COLUMN
df1['marks_twice'] = df1['marks']*2
print(df1)

array = np.array(df1)
print(array)
```



```
[ ] # CUSTOM COLUMN
df1['marks_twice'] = df1['marks']*2
print(df1)

array = np.array(df1)
print(array)

x1 = np.array(df1["name"])
y1 = np.array(df1["marks_twice"])

print(x1)
print(y1)

plt.plot(x, y, marker="o")
plt.xlabel("name")
plt.ylabel("marks_twice")
plt.title("names vs marks_twice")
```

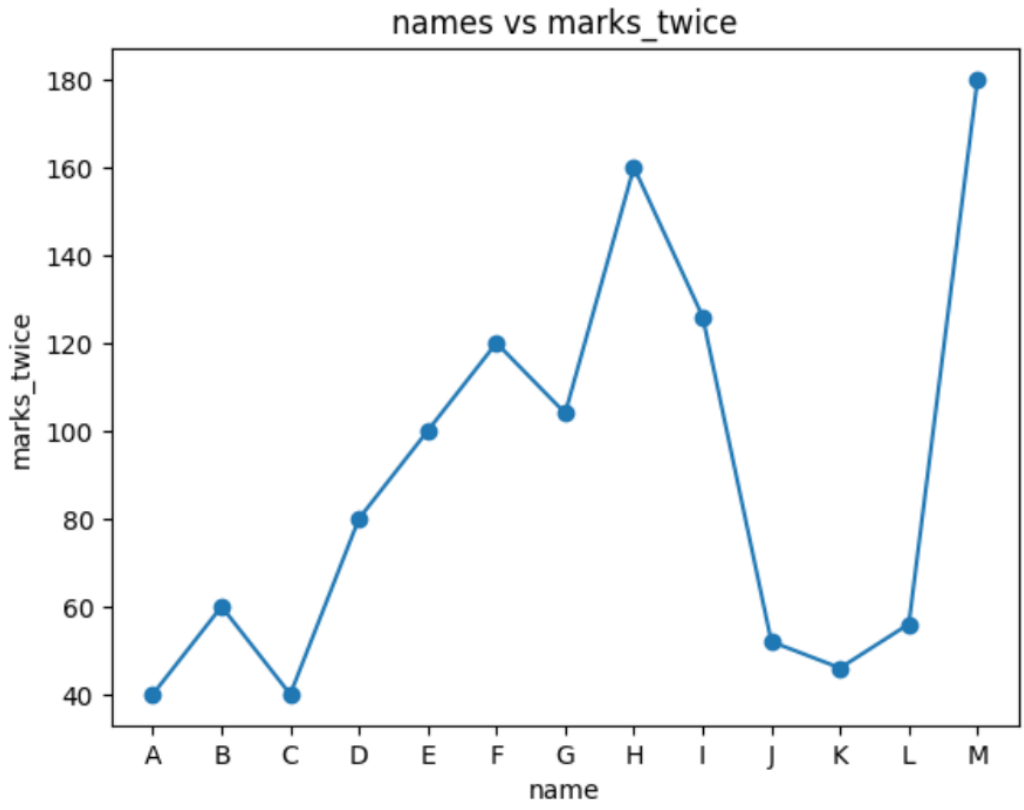
	name	roll no.	marks	name_upper	marks_twice
0	A	1	20	A	40
1	B	2	30	B	60
2	C	3	20	C	40
3	D	4	40	D	80
4	E	5	50	E	100
5	F	6	60	F	120

```
3 D 4 40 D 80
4 E 5 50 E 100
5 F 6 60 F 120
6 G 7 52 G 104
7 H 8 80 H 160
8 I 9 63 I 126
9 J 10 26 J 52
10 K 11 23 K 46
11 L 12 28 L 56
12 M 13 90 M 180
[['A' 1 20 'A' 40]
 ['B' 2 30 'B' 60]
 ['C' 3 20 'C' 40]
 ['D' 4 40 'D' 80]
 ['E' 5 50 'E' 100]
 ['F' 6 60 'F' 120]
 ['G' 7 52 'G' 104]
 ['H' 8 80 'H' 160]
 ['I' 9 63 'I' 126]
 ['J' 10 26 'J' 52]
 ['K' 11 23 'K' 46]
 ['L' 12 28 'L' 56]
 ['M' 13 90 'M' 180]]
['A' 'B' 'C' 'D' 'E' 'F' 'G' 'H' 'I' 'J' 'K' 'L' 'M']
[ 40 60 40 80 100 120 104 160 126 52 46 56 180]
Text(0.5, 1.0, 'names vs marks_twice')
```

names vs marks\_twice



```
[A B C D E F G H I J K L M]  
[ 40 60 40 80 100 120 104 160 126 52 46 56 180]  
Text(0.5, 1.0, 'names vs marks_twice')
```



```
import numpy as np
import matplotlib.pyplot as plt

array = np.array(df1)

# Extract two specific columns as separate arrays
x = np.array(df1["name"])
y = np.array(df1["roll no."])

# Print the entire array
print(array)

# Print the extracted column arrays
print(x)
print(y)

# Plot the data
plt.plot(x, y, marker="o")
plt.xlabel("name")
plt.ylabel("roll no.")
plt.title("names vs RL")
```

```
[[ 'A' 1 20 'A' 40]
 [ 'B' 2 30 'B' 60]
 [ 'C' 3 20 'C' 40]
 [ 'D' 4 40 'D' 80]]
```

```
plt.xlabel('name')  
plt.ylabel("roll no.")  
plt.title("names vs RL")  
  
[[ 'A' 1 20 'A' 40]  
 [ 'B' 2 30 'B' 60]  
 [ 'C' 3 20 'C' 40]  
 [ 'D' 4 40 'D' 80]  
 [ 'E' 5 50 'E' 100]  
 [ 'F' 6 60 'F' 120]  
 [ 'G' 7 52 'G' 104]  
 [ 'H' 8 80 'H' 160]  
 [ 'I' 9 63 'I' 126]  
 [ 'J' 10 26 'J' 52]  
 [ 'K' 11 23 'K' 46]  
 [ 'L' 12 28 'L' 56]  
 [ 'M' 13 90 'M' 180]]  
[ 'A' 'B' 'C' 'D' 'E' 'F' 'G' 'H' 'I' 'J' 'K' 'L' 'M']  
[ 1 2 3 4 5 6 7 8 9 10 11 12 13]  
Text(0.5, 1.0, 'names vs RL')
```





Text(0.5, 1.0, 'names vs RL')



names vs RL

