

```
In [1]: import numpy as np
```

```
In [2]: import pandas as pd
```

```
In [3]: import matplotlib.pyplot as plt
```

```
In [4]: ds=pd.read_csv("D:\president_heights.csv")
```

```
In [5]: ds
```

Out[5]:

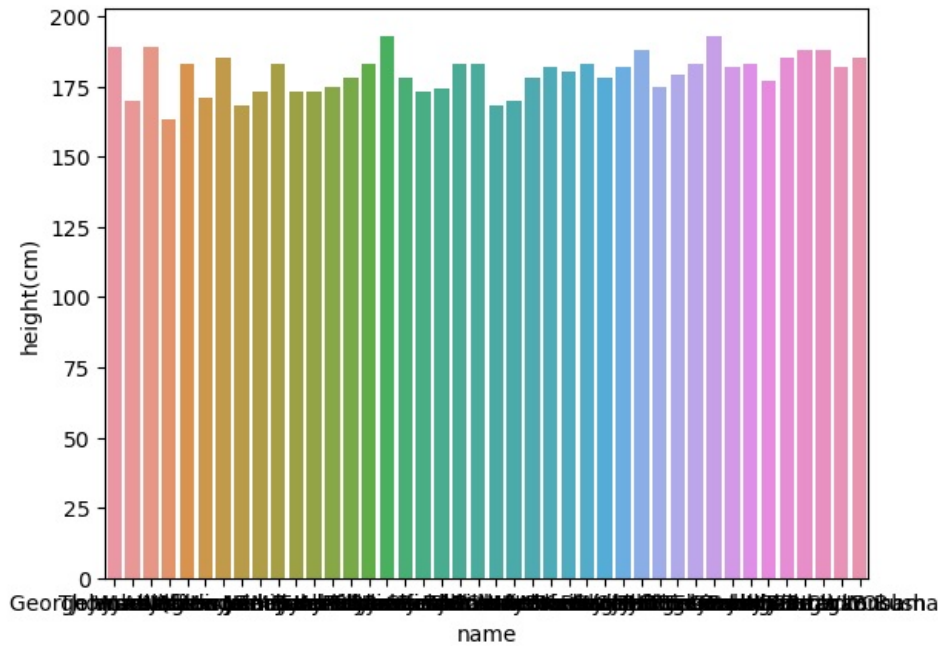
	order	name	height(cm)
0	1	George Washington	189
1	2	John Adams	170
2	3	Thomas Jefferson	189
3	4	James Madison	163
4	5	James Monroe	183
5	6	John Quincy Adams	171
6	7	Andrew Jackson	185
7	8	Martin Van Buren	168
8	9	William Henry Harrison	173
9	10	John Tyler	183
10	11	James K. Polk	173
11	12	Zachary Taylor	173
12	13	Millard Fillmore	175
13	14	Franklin Pierce	178
14	15	James Buchanan	183
15	16	Abraham Lincoln	193
16	17	Andrew Johnson	178
17	18	Ulysses S. Grant	173
18	19	Rutherford B. Hayes	174
19	20	James A. Garfield	183
20	21	Chester A. Arthur	183
21	23	Benjamin Harrison	168
22	25	William McKinley	170
23	26	Theodore Roosevelt	178
24	27	William Howard Taft	182
25	28	Woodrow Wilson	180
26	29	Warren G. Harding	183
27	30	Calvin Coolidge	178
28	31	Herbert Hoover	182
29	32	Franklin D. Roosevelt	188
30	33	Harry S. Truman	175
31	34	Dwight D. Eisenhower	179
32	35	John F. Kennedy	183
33	36	Lyndon B. Johnson	193
34	37	Richard Nixon	182
35	38	Gerald Ford	183
36	39	Jimmy Carter	177
37	40	Ronald Reagan	185
38	41	George H. W. Bush	188
39	42	Bill Clinton	188
40	43	George W. Bush	182
41	44	Barack Obama	185

```
In [6]: import seaborn as sns
```

```
In [8]: sns.barplot(x='name',y='height(cm)',data=ds)
```

```
plt.figure(figsize=(15,5))
```

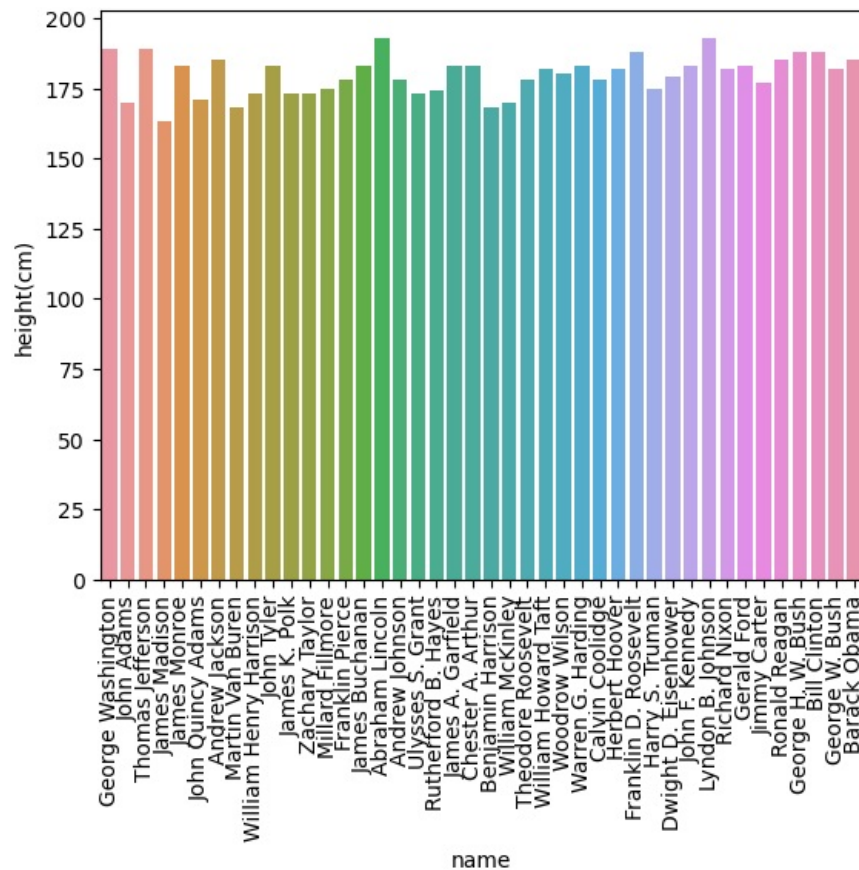
Out[8]: <Figure size 1500x500 with 0 Axes>



<Figure size 1500x500 with 0 Axes>

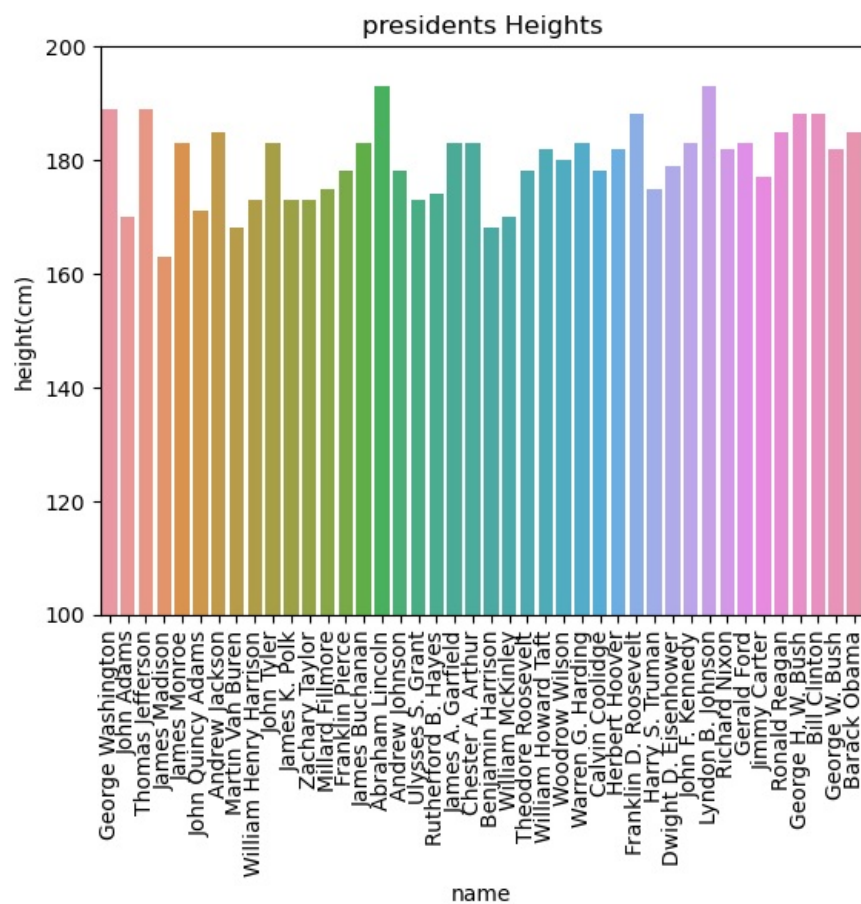
```
In [10]: sns.barplot(x='name',y='height(cm)',data=ds)
plt.xticks(rotation=90)
plt.figure(figsize=(15,5))
```

Out[10]: <Figure size 1500x500 with 0 Axes>



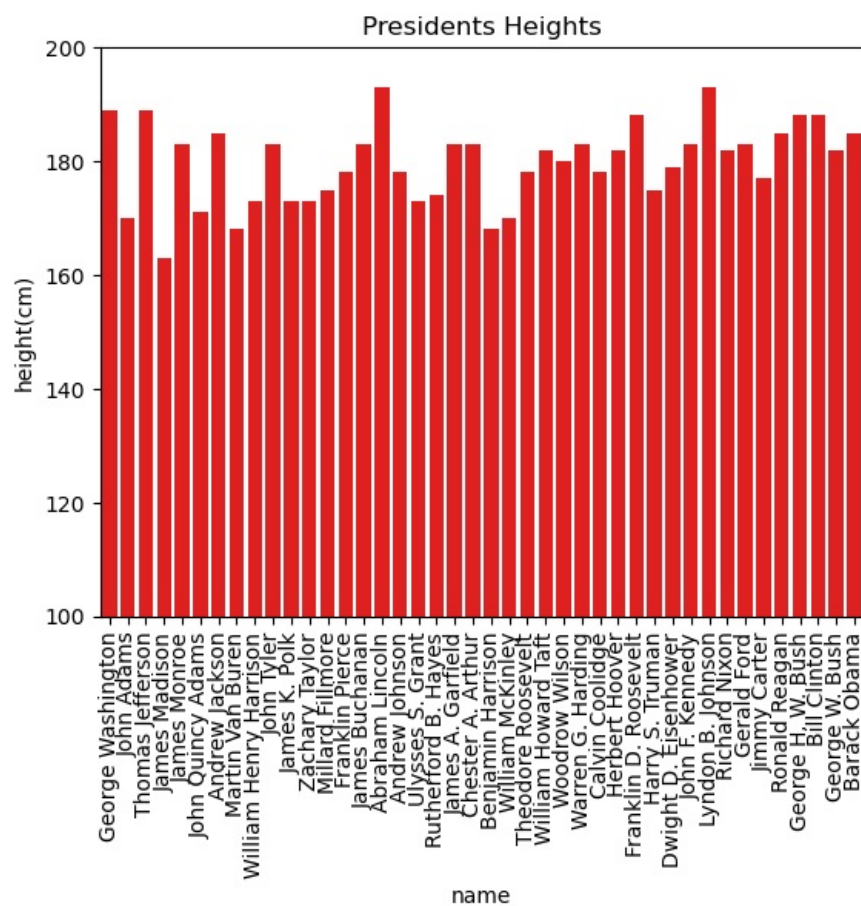
<Figure size 1500x500 with 0 Axes>

```
In [15]: sns.barplot(x='name',y='height(cm)',data=ds)
plt.title("presidents Heights")
plt.xticks(rotation=90)
plt.ylim(100,200)
plt.figure(figsize=(15,5))
plt.show()
```



<Figure size 1500x500 with 0 Axes>

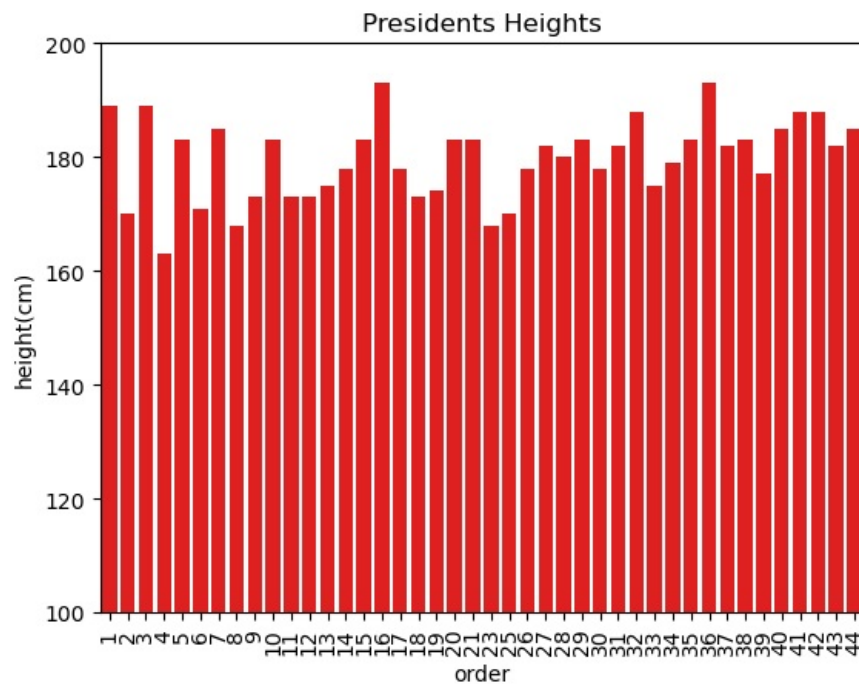
```
In [18]: sns.barplot(x='name',y='height(cm)',data=ds,color='red')
plt.title("Presidents Heights")
plt.xticks(rotation=90)
plt.ylim(100,200)
plt.figure(figsize=(15,5))
plt.show()
```



<Figure size 1500x500 with 0 Axes>

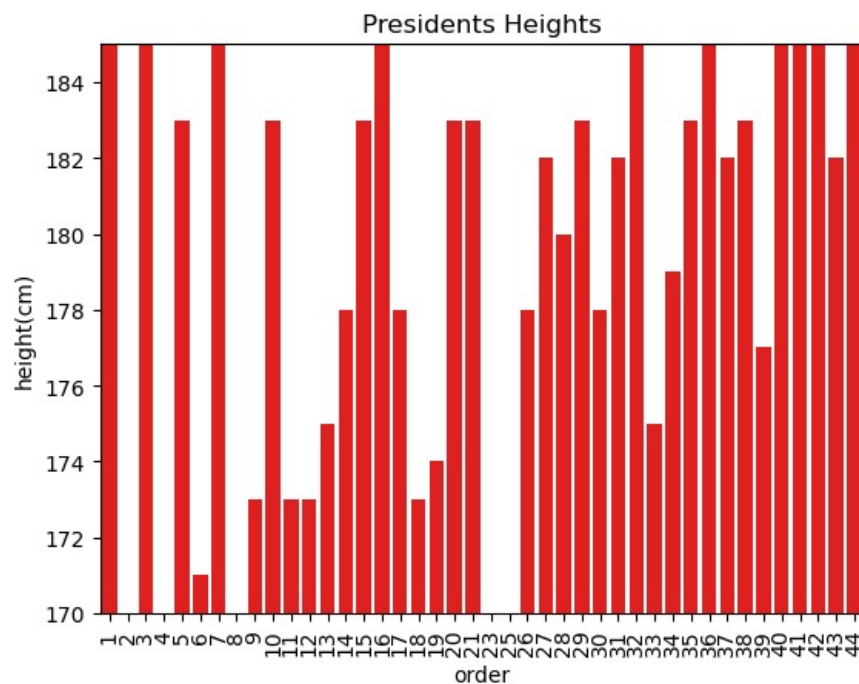
```
In [19]: sns.barplot(x='order',y='height(cm)',data=ds,color='red')
plt.title("Presidents Heights")
plt.xticks(rotation=90)
```

```
plt.ylim(100,200)
plt.figure(figsize=(15,5))
plt.show()
```



<Figure size 1500x500 with 0 Axes>

```
In [20]: sns.barplot(x='order',y='height(cm)',data=ds,color='red')
plt.title("Presidents Heights")
plt.xticks(rotation=90)
plt.ylim(170,185)
plt.figure(figsize=(15,5))
plt.show()
```



<Figure size 1500x500 with 0 Axes>

```
In [24]: data=pd.Series([1.0,1.5,1.75,2.0],index=['a','b','c','d'])
data
```

```
Out[24]: a    1.00
b    1.50
c    1.75
d    2.00
dtype: float64
```

```
In [31]: data['b']
```

```
Out[31]: 1.5
```

```
In [33]: 'a' in data
```

```
Out[33]: True
```

```
In [34]: 'f' in data
```

```
Out[34]: False
```

```
In [36]: data.keys()
```

```
Out[36]: Index(['a', 'b', 'c', 'd'], dtype='object')
```

```
In [37]: list(data.items())
```

```
Out[37]: [('a', 1.0), ('b', 1.5), ('c', 1.75), ('d', 2.0)]
```

```
In [44]: data
```

```
Out[44]: a    1.00  
b    1.50  
c    1.75  
d    2.00  
dtype: float64
```

```
In [46]: data['e']=2.5  
data
```

```
Out[46]: a    1.00  
b    1.50  
c    1.75  
d    2.00  
e    2.50  
dtype: float64
```

```
In [50]: data['c':'e']
```

```
Out[50]: c    1.75  
d    2.00  
e    2.50  
dtype: float64
```

```
In [58]: data[(data>=1.5)&(data<=2.5)]
```

```
Out[58]: b    1.50  
c    1.75  
d    2.00  
e    2.50  
dtype: float64
```

```
In [59]: data
```

```
Out[59]: a    1.00  
b    1.50  
c    1.75  
d    2.00  
e    2.50  
dtype: float64
```

```
In [60]: data[1]
```

```
Out[60]: 1.5
```

```
In [61]: data[1:3]
```

```
Out[61]: b    1.50  
c    1.75  
dtype: float64
```

```
In [66]: area=({'chennai':91,'nellore':92,'bangalore':93,'mumbai':94,'kerala':95,'delhi':96})
```

```
In [65]: area
```

```
Out[65]: {'chennai': 91,  
          'nellore': 92,  
          'bangalore': 93,  
          'mumbai': 94,  
          'kerala': 95,  
          'delhi': 96}
```

```
In [67]: area.keys
```

```
Out[67]: <function dict.keys>
```

```
In [70]: pop=area=pd.Series({'chennai':91,'nellore':92,'bangalore':93,'mumbai':94,'kerala':95,'delhi':96})
```

```
In [71]: area
```

```
Out[71]: chennai      91
         nellore     92
         bangalore   93
         mumbai      94
         kerala      95
         delhi       96
         dtype: int64
```

```
In [81]: data=pd.DataFrame({'area':area,'pop':pop})
```

```
In [82]: data
```

Out[82]:

	area	pop
chennai	91	91
nellore	92	92
bangalore	93	93
mumbai	94	94
kerala	95	95
delhi	96	96

```
In [83]: data['Density']=data['pop']+data['area']
```

```
In [84]: data
```

Out[84]:

	area	pop	Density
chennai	91	91	182
nellore	92	92	184
bangalore	93	93	186
mumbai	94	94	188
kerala	95	95	190
delhi	96	96	192

```
In [85]: data.values
```

```
Out[85]: array([[ 91,  91, 182],
               [ 92,  92, 184],
               [ 93,  93, 186],
               [ 94,  94, 188],
               [ 95,  95, 190],
               [ 96,  96, 192]], dtype=int64)
```

```
In [86]: data.values[2]
```

```
Out[86]: array([ 93,  93, 186], dtype=int64)
```

```
In [88]: data.values[:,0]
```

```
Out[88]: array([91, 92, 93, 94, 95, 96], dtype=int64)
```

```
In [112]: data
```

Out[112]:

	area	pop	Density
chennai	91	91	90
nellore	80	80	80
bangalore	80	80	80
mumbai	80	80	80
kerala	80	80	80
delhi	80	80	80

```
In [90]: ds
```

Out[90]:

	order	name	height(cm)
0	1	George Washington	189
1	2	John Adams	170
2	3	Thomas Jefferson	189
3	4	James Madison	163
4	5	James Monroe	183
5	6	John Quincy Adams	171
6	7	Andrew Jackson	185
7	8	Martin Van Buren	168
8	9	William Henry Harrison	173
9	10	John Tyler	183
10	11	James K. Polk	173
11	12	Zachary Taylor	173
12	13	Millard Fillmore	175
13	14	Franklin Pierce	178
14	15	James Buchanan	183
15	16	Abraham Lincoln	193
16	17	Andrew Johnson	178
17	18	Ulysses S. Grant	173
18	19	Rutherford B. Hayes	174
19	20	James A. Garfield	183
20	21	Chester A. Arthur	183
21	23	Benjamin Harrison	168
22	25	William McKinley	170
23	26	Theodore Roosevelt	178
24	27	William Howard Taft	182
25	28	Woodrow Wilson	180
26	29	Warren G. Harding	183
27	30	Calvin Coolidge	178
28	31	Herbert Hoover	182
29	32	Franklin D. Roosevelt	188
30	33	Harry S. Truman	175
31	34	Dwight D. Eisenhower	179
32	35	John F. Kennedy	183
33	36	Lyndon B. Johnson	193
34	37	Richard Nixon	182
35	38	Gerald Ford	183
36	39	Jimmy Carter	177
37	40	Ronald Reagan	185
38	41	George H. W. Bush	188
39	42	Bill Clinton	188
40	43	George W. Bush	182
41	44	Barack Obama	185

In [92]:

ds.iloc[4]

Out[92]:

order5
nameJames Monroe
height(cm)183
Name: 4, dtype: object

In [93]:

data.iloc[0]

Out[93]:

area91
pop91
Density182
Name: chennai, dtype: int64

In [109...]

data.iloc[0,2]=90

In [110...]

data.iloc[0]

```
Out[110]: area      91
pop        91
Density    90
Name: chennai, dtype: int64
```

```
In [116]: data[data.Density>80]
```

```
Out[116]:
```

	area	pop	Density
chennai	91	91	90

```
In [117]: data1=pd.Series([1,np.nan,2,None,3],index=['a','b','c','b','e'])
```

```
In [118]: data1
```

```
Out[118]: a      1.0
b      NaN
c      2.0
b      NaN
e      3.0
dtype: float64
```

```
In [121]: data1.fillna(0)
```

```
Out[121]: a      1.0
b      0.0
c      2.0
b      0.0
e      3.0
dtype: float64
```

```
In [123]: data1.fillna(method='ffill')
```

```
Out[123]: a      1.0
b      1.0
c      2.0
b      2.0
e      3.0
dtype: float64
```

```
In [125]: data1.fillna(method='bfill')
```

```
Out[125]: a      1.0
b      2.0
c      2.0
b      3.0
e      3.0
dtype: float64
```

```
In [ ]:
```