

```
In [ ]: import pandas as pd
        from matplotlib import pyplot as plt
        # Read CSV into pandas
        data = pd.read_csv("C:/Users/USER/Desktop/MLLABDOCS-11OCT2021/CARS-02.csv")
        data.head()

        df = pd.DataFrame(data)
```

```
In [ ]: l1 = list(data.columns.values)
```

```
In [ ]: #Col 0 = 'car'
        l2 = data[l1[0]].tolist()
```

```
In [ ]: #Col 1 = 'mpg'
        l3 = data[l1[1]].tolist()
        type(l3[0])
```

```
In [ ]: #col 2 = 'cyl'
        l4 = data[l1[2]].tolist()
        type(l4[0])
```

```
In [ ]: df.plot.scatter(l1[1], l1[2] , s = 100);
```

```
In [ ]: # Program to draw scatter plot using Dataframe.plot
        # Import Libraries
        import pandas as pd

        # Prepare data
        data={'Name':l1[0],
              'MPG':l1[1]}

        # Load data into DataFrame
        df = pd.DataFrame(data = data);

        # Draw a scatter plot
        df.plot.scatter(x = 'Name', y = 'MPG', s = 100);
```

```
In [36]: import numpy as np
        import pandas as pd
        %matplotlib inline
```

```

mu = 168 #mean
sigma = 5 #stddev
sample = 250
np.random.seed(0)
height_f = np.random.normal(mu, sigma, sample).astype(int)

mu = 176 #mean
sigma = 6 #stddev
sample = 250
np.random.seed(1)
height_m = np.random.normal(mu, sigma, sample).astype(int)

```

```
In [37]: gym = pd.DataFrame({'height_f': height_f, 'height_m': height_m})
```

```
In [38]: gym
```

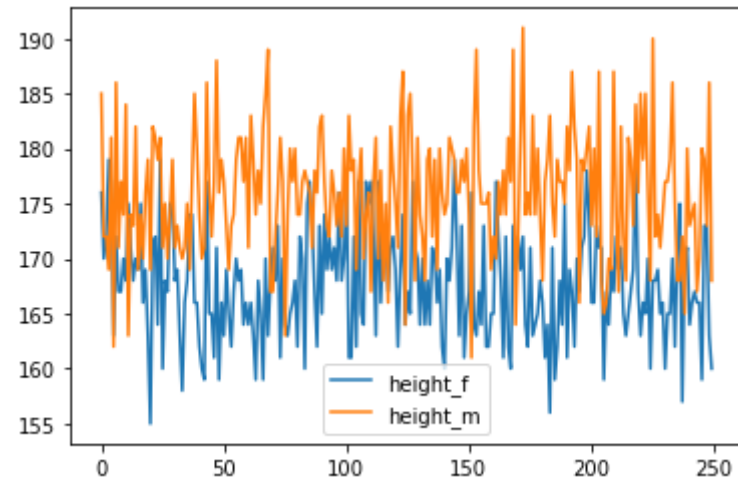
```
Out[38]:
```

	height_f	height_m
0	176	185
1	170	172
2	172	172
3	179	169
4	177	181
...
245	159	180
246	173	179
247	173	173
248	163	186
249	160	168

250 rows × 2 columns

```
In [39]: gym.plot()
```

Out[39]: <AxesSubplot:>



```
In [40]: gym.groupby('height_m').count()
```

Out[40]:

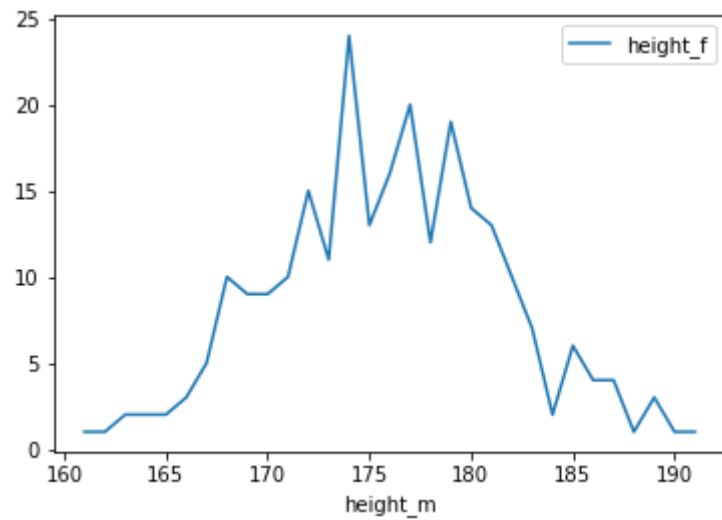
	height_f
--	----------

height_m	
161	1
162	1
163	2
164	2
165	2
166	3
167	5
168	10
169	9
170	9
171	10
172	15

	height_f
height_m	
173	11
174	24
175	13
176	16
177	20
178	12
179	19
180	14
181	13
182	10
183	7
184	2
185	6
186	4
187	4
188	1
189	3
190	1
191	1

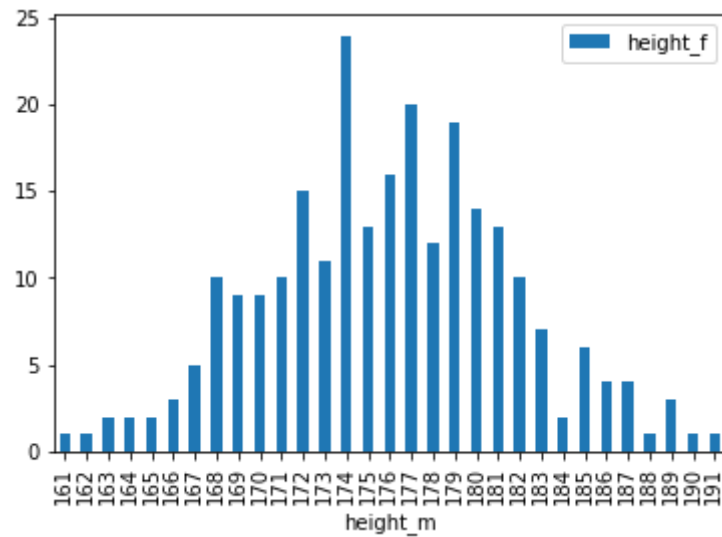
```
In [41]: gym.groupby('height_m').count().plot()
```

```
Out[41]: <AxesSubplot:xlabel='height_m'>
```



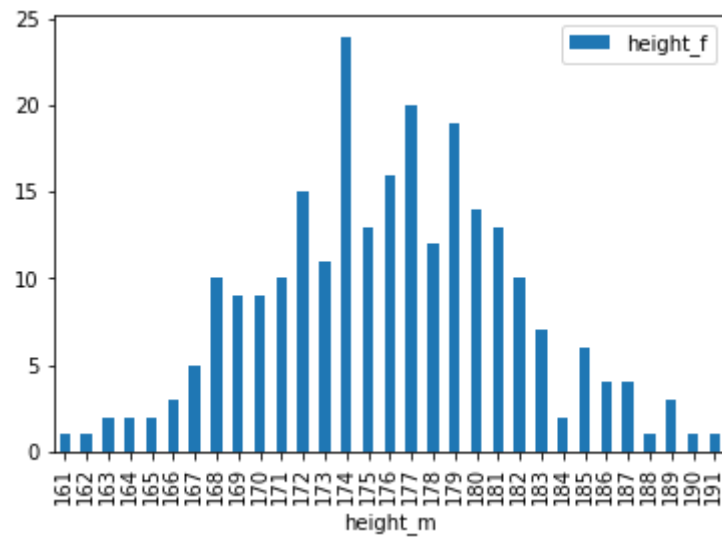
```
In [42]: gym.groupby('height_m').count().plot.bar()
```

```
Out[42]: <AxesSubplot:xlabel='height_m'>
```



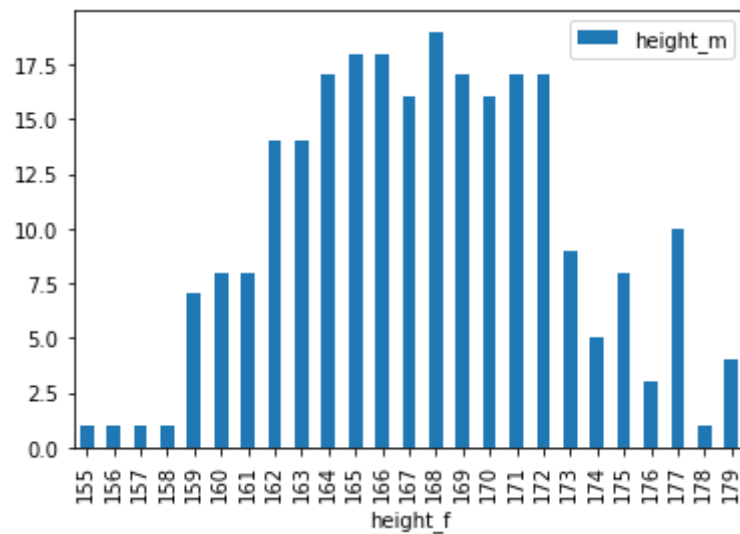
```
In [43]: gym.groupby('height_m').count().plot(kind='bar')
```

```
Out[43]: <AxesSubplot:xlabel='height_m'>
```



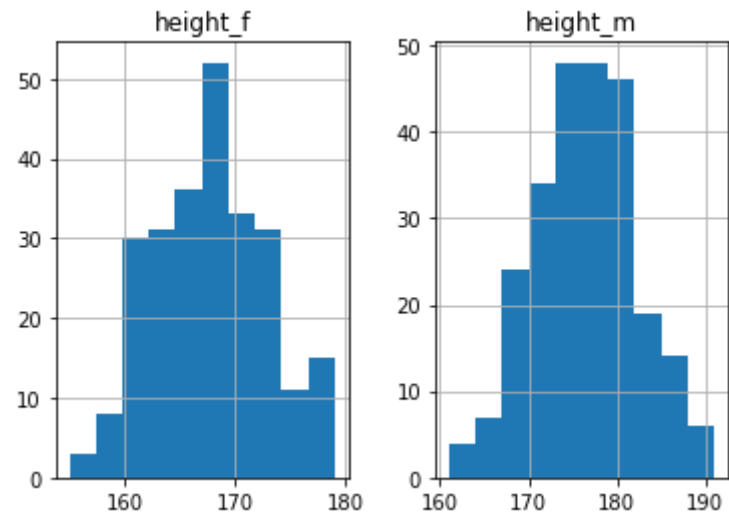
```
In [44]: gym.groupby('height_f').count().plot.bar()
```

```
Out[44]: <AxesSubplot:xlabel='height_f'>
```



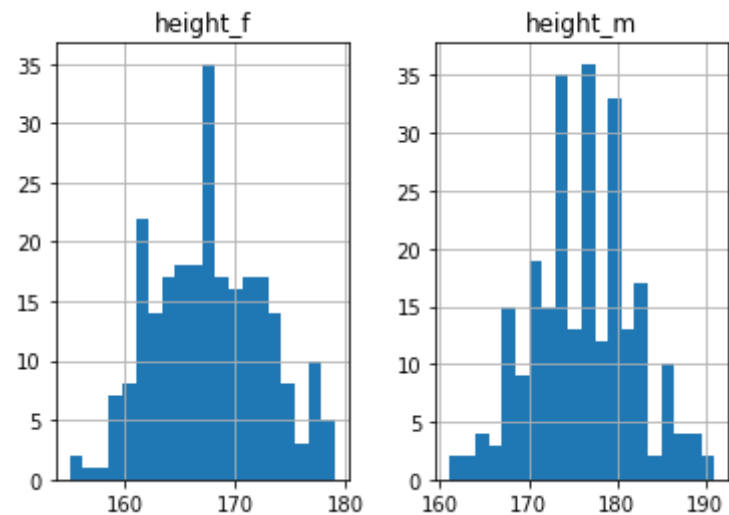
```
In [45]: gym.hist()
```

```
Out[45]: array([[<AxesSubplot:title={'center':'height_f'}>,
                  <AxesSubplot:title={'center':'height_m'}>]], dtype=object)
```



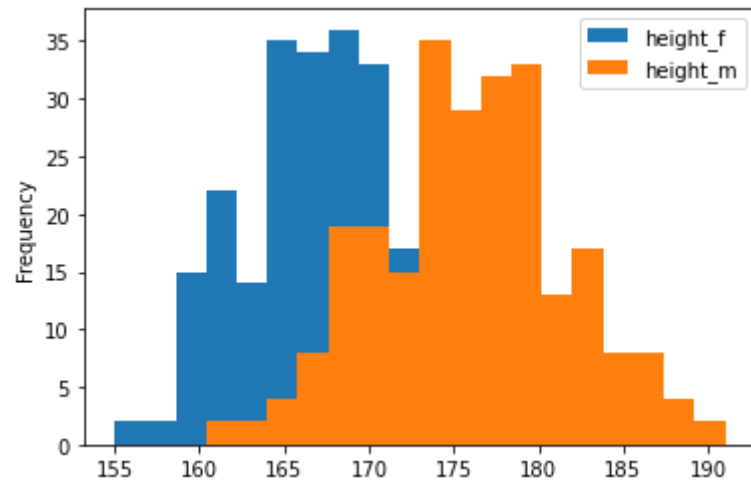
```
In [46]: gym.hist(bins=20)
```

```
Out[46]: array([[<AxesSubplot:title={'center':'height_f'}>,
                <AxesSubplot:title={'center':'height_m'}>]], dtype=object)
```



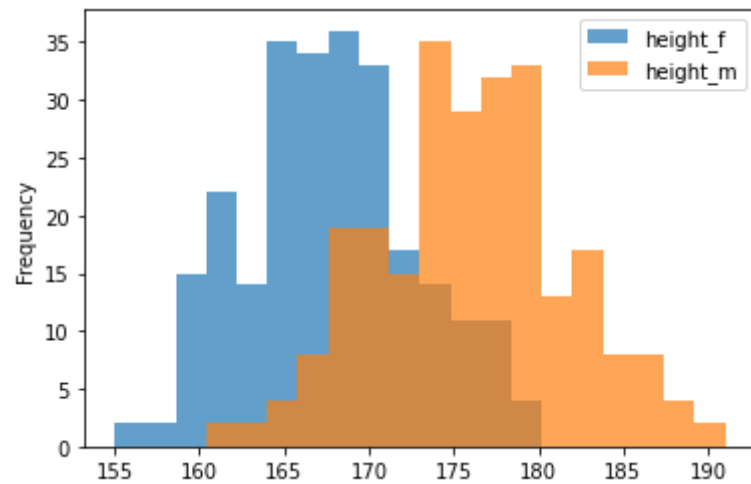
```
In [47]: gym.plot.hist(bins=20)
```

```
Out[47]: <AxesSubplot:ylabel='Frequency'>
```



```
In [48]: gym.plot.hist(bins=20, alpha=0.7)
```

```
Out[48]: <AxesSubplot:ylabel='Frequency'>
```



```
In [65]: import pandas as pd
from matplotlib import pyplot as plt

# Read CSV into pandas
data = pd.read_csv("C:/Users/USER/Desktop/MLLABDOCS-11OCT2021/CARS-02.csv")
data.head()
df = pd.DataFrame(data)
```



```
name = df['car'].head(15)
price = df['cyl'].head(15)

# Figure Size
fig = plt.figure(figsize=(15, 15))

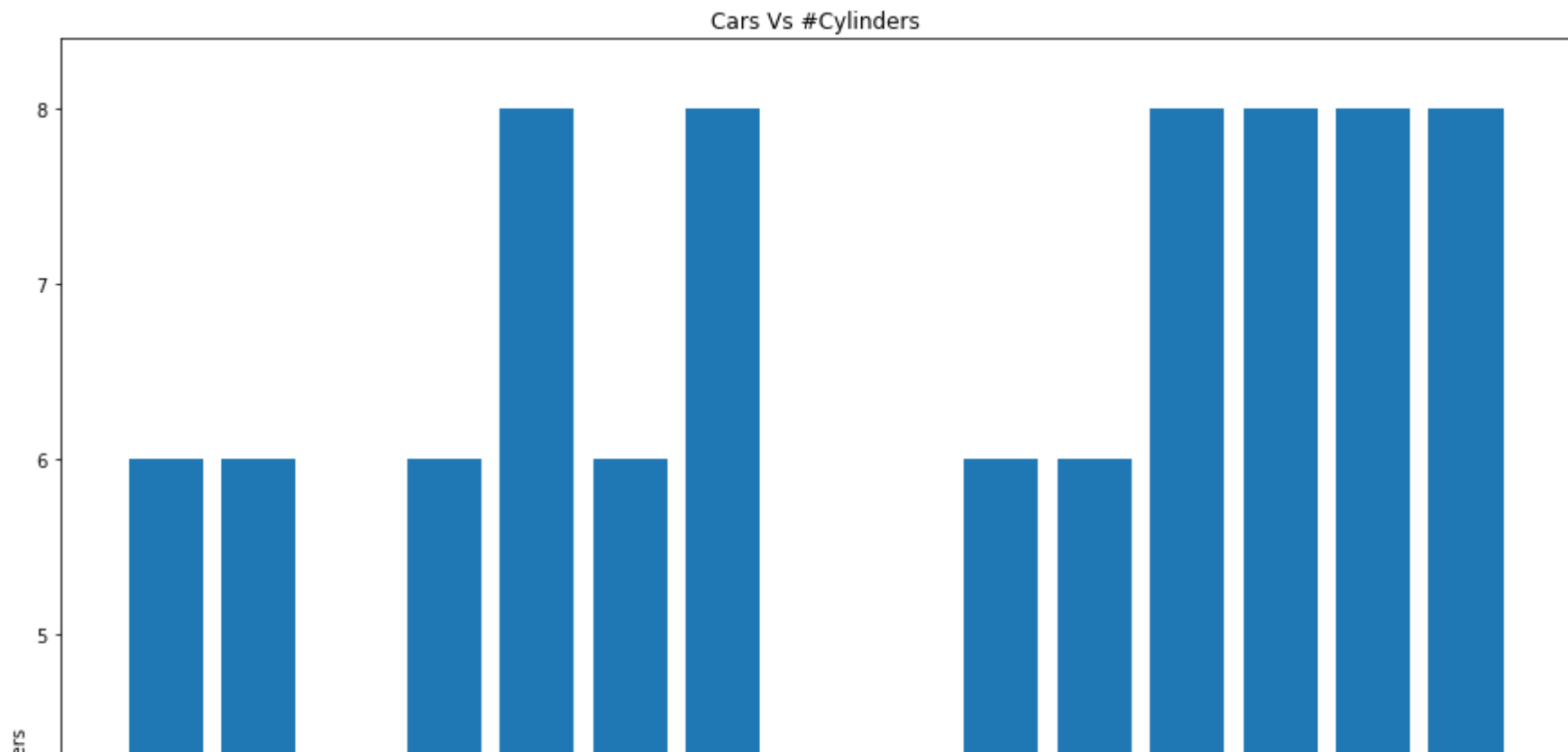
# Horizontal Bar Plot
plt.bar(name[0:20], price[0:20])

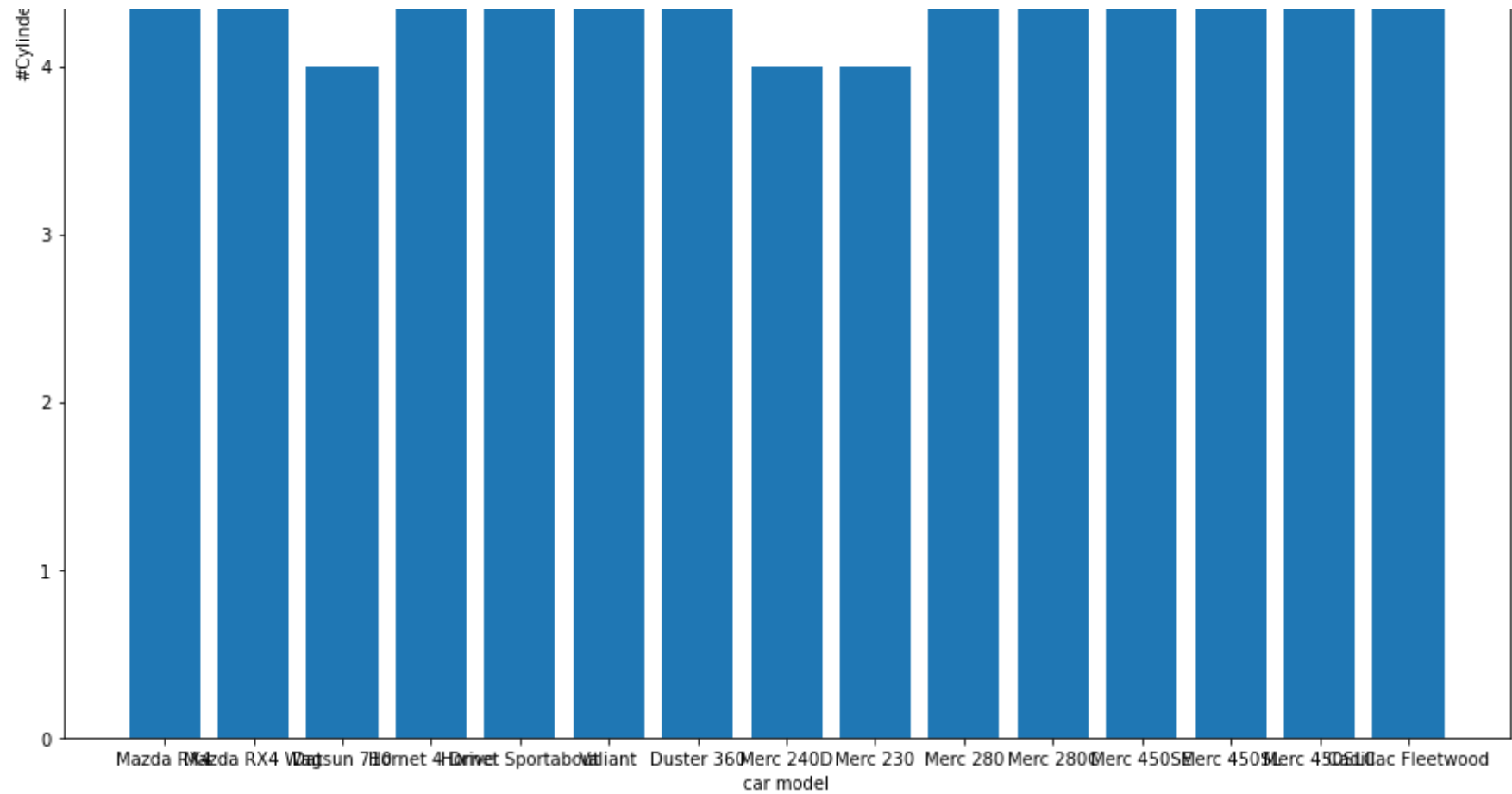
plt.xlabel('car model')

plt.ylabel('#Cylinders')

plt.title('Cars Vs #Cylinders')

# Show Plot
plt.show()
```





```
In [76]: import pandas as pd
from matplotlib import pyplot as plt

# Read CSV into pandas
data = pd.read_csv("C:/Users/USER/Desktop/MLLABDOCS-11OCT2021/CARS-02.csv")
data.head()
df = pd.DataFrame(data)

name = df['car'].head(10)
price = df['cyl'].head(10)

# Figure Size
fig, ax = plt.subplots(figsize =(16, 9))
```

```
# Horizontal Bar Plot
ax.barh(name, price)

# Remove axes splines
for s in ['top', 'bottom', 'left', 'right']:
    ax.spines[s].set_visible(False)

# Remove x, y Ticks
ax.xaxis.set_ticks_position('none')
ax.yaxis.set_ticks_position('none')

# Add padding between axes and labels
ax.xaxis.set_tick_params(pad = 5)
ax.yaxis.set_tick_params(pad = 10)

# Add x, y gridlines
ax.grid(b = True, color = 'grey',
        linestyle = '-.', linewidth = 0.5,
        alpha = 0.2)

# Show top values
ax.invert_yaxis()

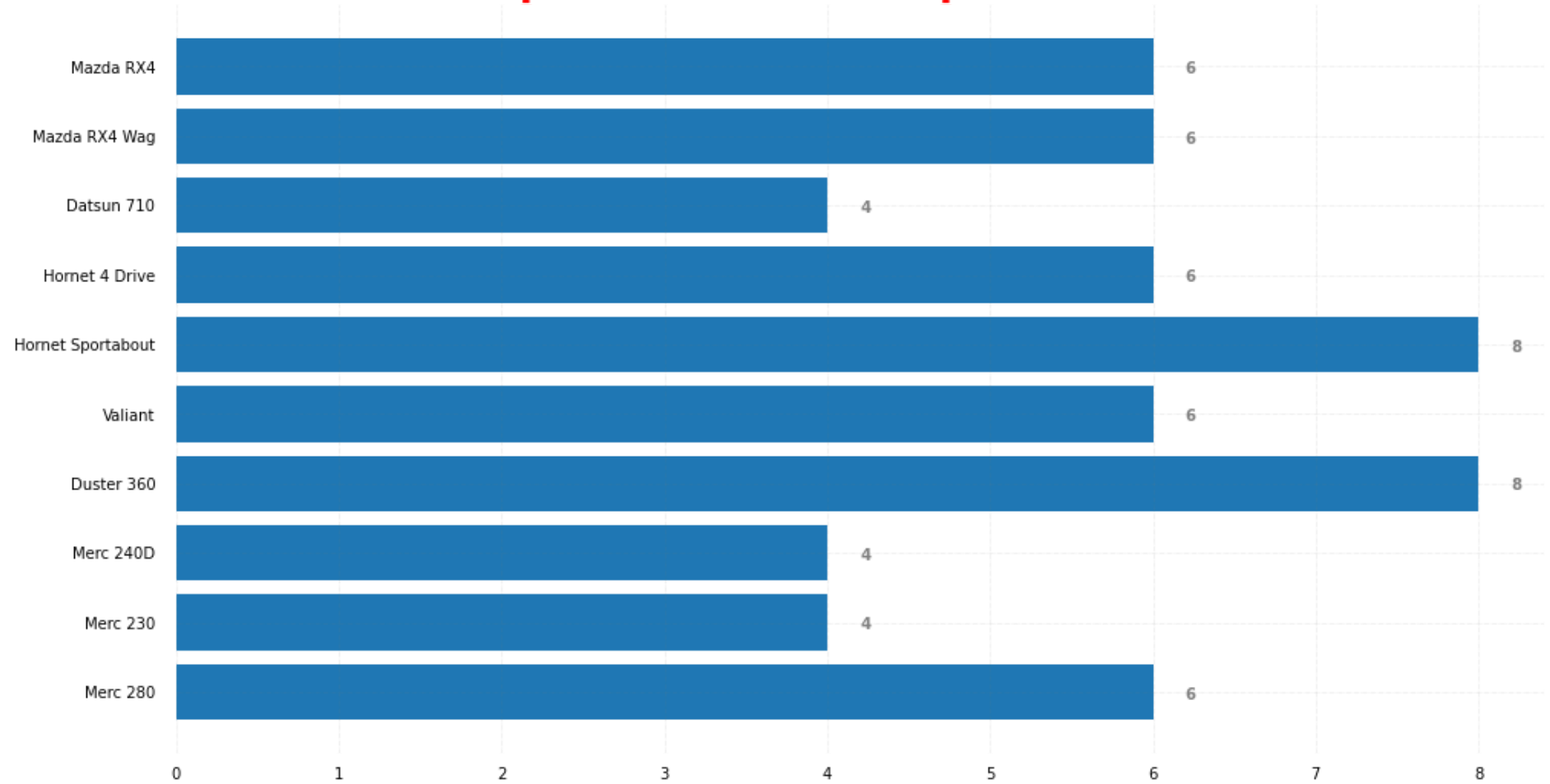
# Add annotation to bars
for i in ax.patches:
    plt.text(i.get_width()+0.2, i.get_y()+0.5,
             str(round((i.get_width()), 2)),
             fontsize = 10, fontweight = 'bold',
             color = 'grey')

# Add Plot Title
ax.set_title('Sports car and their price in crore',
            loc = 'center', fontsize = 25, fontweight = 'bold',
            color = 'red')

# Add Text watermark
fig.text(0.9, 0.15, 'Jeeteshgavande30', fontsize = 12,
        color = 'grey', ha = 'right', va = 'bottom',
        alpha = 0.7)

# Show Plot
plt.show()
```

Sports car and their price in crore



In []:

In []:

In []:

In []: