

```
In [33]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [34]: a=pd.read_csv("C:\All Datasets\Iris.csv")
a
```

Out[34]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa
...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

```
In [50]: a.isnull().sum()
```

```
Out[50]: Id                0
SepalLengthCm            0
SepalWidthCm             0
PetalLengthCm            0
PetalWidthCm             0
Species                  0
dtype: int64
```

```
In [51]: a.isnull().any()
```

```
Out[51]: Id                False
SepalLengthCm            False
SepalWidthCm             False
PetalLengthCm            False
PetalWidthCm             False
Species                  False
dtype: bool
```

```
In [56]: np.where(a==5.1)
```

```
Out[56]: (array([ 0, 17, 19, 21, 23, 39, 44, 46, 83, 98, 101, 110, 114,
                133, 141, 142, 149], dtype=int64),
          array([1, 1, 1, 1, 1, 1, 1, 1, 3, 1, 3, 3, 3, 3, 3, 3], dtype=int64))
```

```
In [69]: a.shape
```

```
Out[69]: (150, 6)
```

```
In [71]: a.ndim
```

```
Out[71]: 2
```

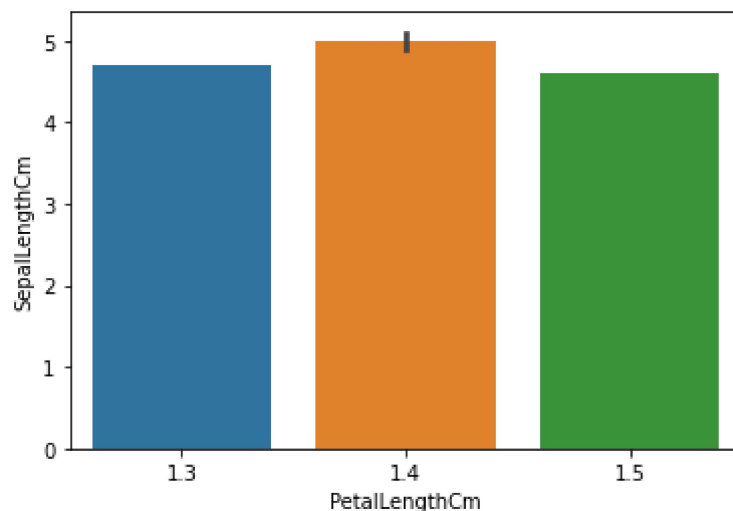
```
In [36]: a2=a.head()
a2
```

```
Out[36]:
```

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa

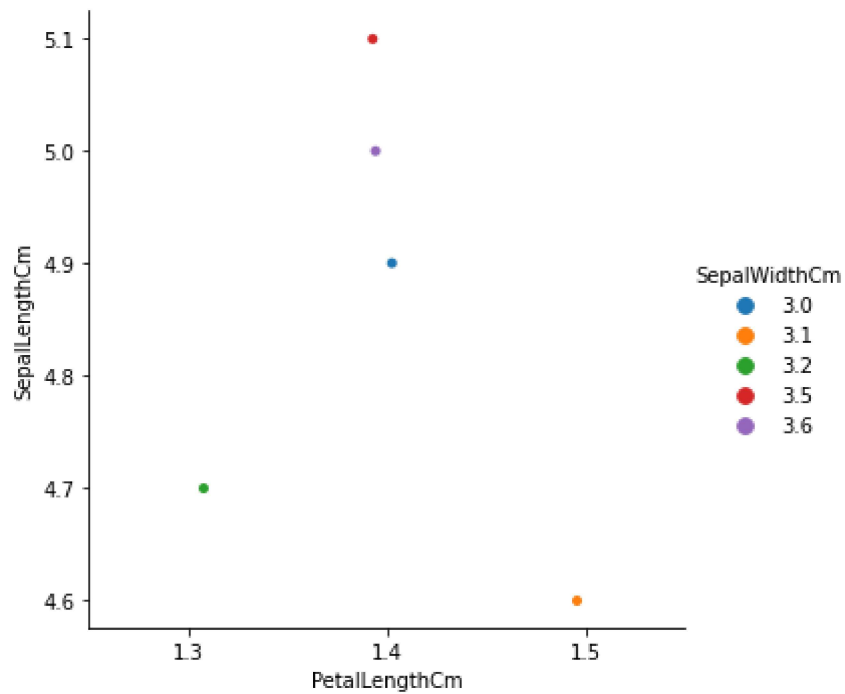
```
In [38]: sns.barplot(x="PetalLengthCm",y="SepalLengthCm",data=a2)
```

```
Out[38]: <AxesSubplot:xlabel='PetalLengthCm', ylabel='SepalLengthCm'>
```



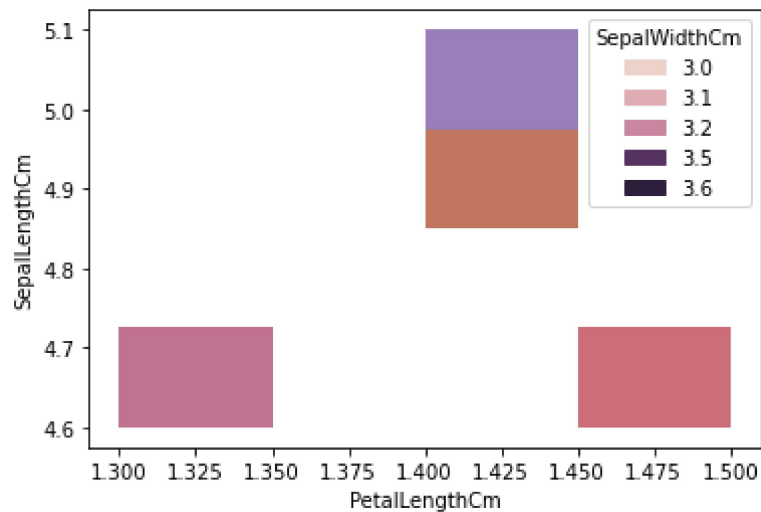
```
In [40]: sns.catplot(x="PetalLengthCm",y="SepalLengthCm",data=a2,hue="SepalWidthCm")
```

```
Out[40]: <seaborn.axisgrid.FacetGrid at 0x1f1477ef0a0>
```

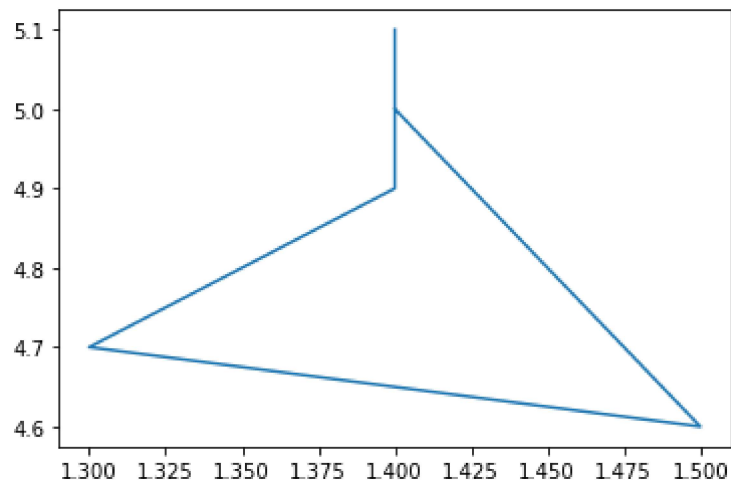


```
In [41]: sns.histplot(x="PetalLengthCm",y="SepalLengthCm",data=a2,hue="SepalWidthCm")
```

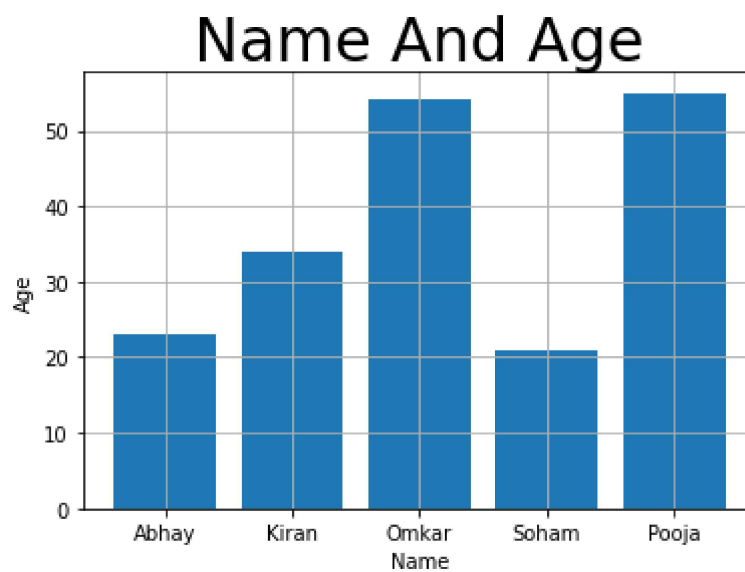
```
Out[41]: <AxesSubplot:xlabel='PetalLengthCm', ylabel='SepalLengthCm'>
```



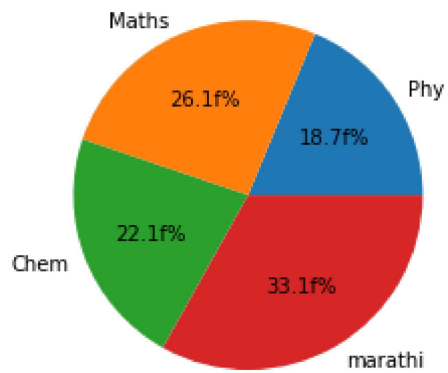
```
In [49]: plt.plot(a2["PetalLengthCm"],a2["SepalLengthCm"])  
plt.show()
```



```
In [61]: x=["Abhay","Kiran","Omkar","Soham","Pooja"]  
y=[23,34,54,21,55]  
plt.bar(x,y)  
plt.title("Name And Age",size=30)  
plt.xlabel("Name")  
plt.ylabel("Age")  
plt.grid()  
plt.show()
```



```
In [67]: x=[56,78,66,99]
r=["Phy", "Maths", "Chem", "marathi"]
plt.pie(x, labels=r, autopct="%1.1ff%%")
#plt.autopct("%1.1ff%")
plt.show()
```



In []: