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

data=pd.read_csv(r"C:\Users\rohan\Downloads\Iris.csv")
data
```

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

            Species
0       Iris-setosa
1       Iris-setosa
2       Iris-setosa
3       Iris-setosa
4       Iris-setosa
..              ...
145  Iris-virginica
146  Iris-virginica
147  Iris-virginica
148  Iris-virginica
149  Iris-virginica

[150 rows x 6 columns]
```

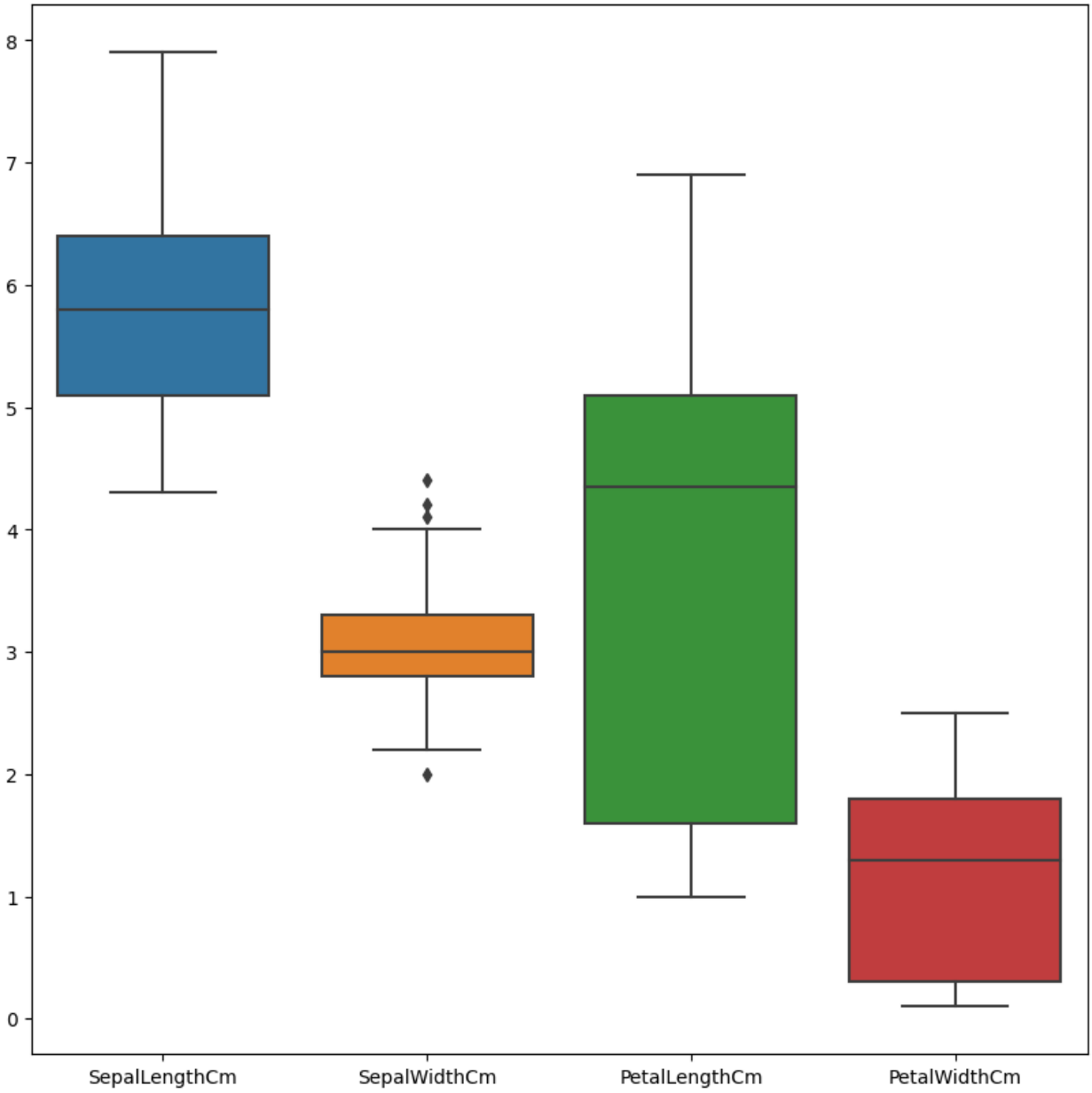
```
df=data.drop(["Species","Id"],axis=1)
df
```

```
     SepalLengthCm  SepalWidthCm  PetalLengthCm  PetalWidthCm
0              5.1           3.5            1.4           0.2
1              4.9           3.0            1.4           0.2
2              4.7           3.2            1.3           0.2
3              4.6           3.1            1.5           0.2
4              5.0           3.6            1.4           0.2
..             ...           ...            ...           ...
145            6.7           3.0            5.2           2.3
146            6.3           2.5            5.0           1.9
147            6.5           3.0            5.2           2.0
148            6.2           3.4            5.4           2.3
```

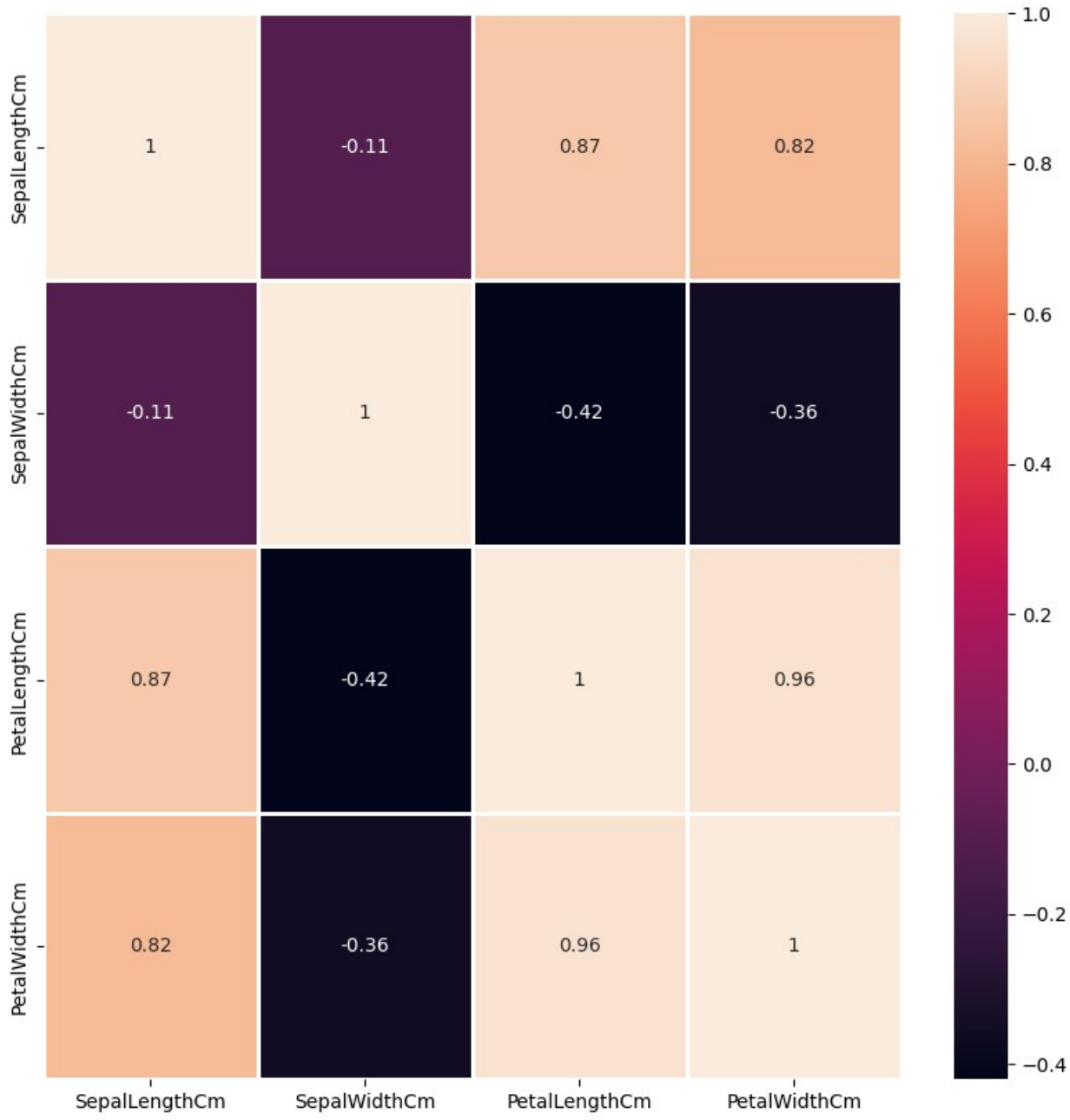
```
149            5.9           3.0            5.1           1.8

[150 rows x 4 columns]
```

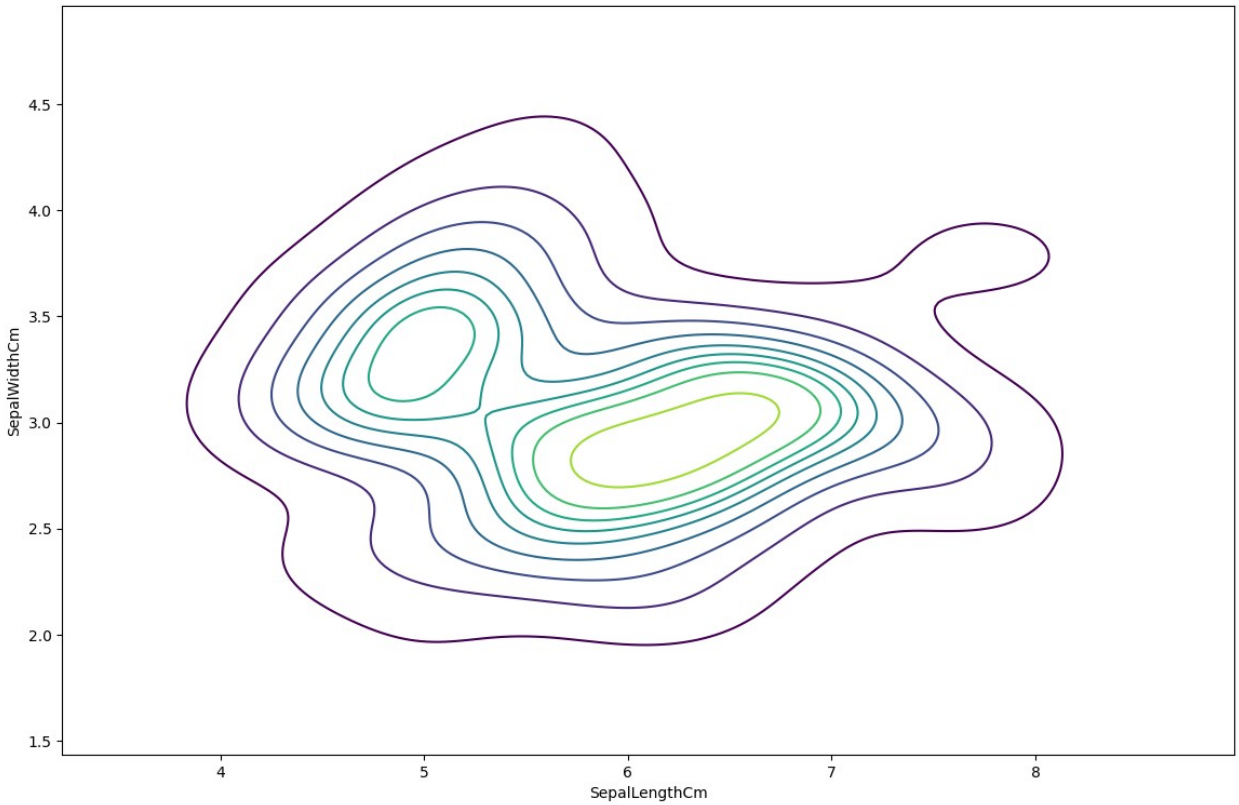
```
plt.figure(figsize=(10,10))
sns.boxplot(data=df)
plt.show()
```



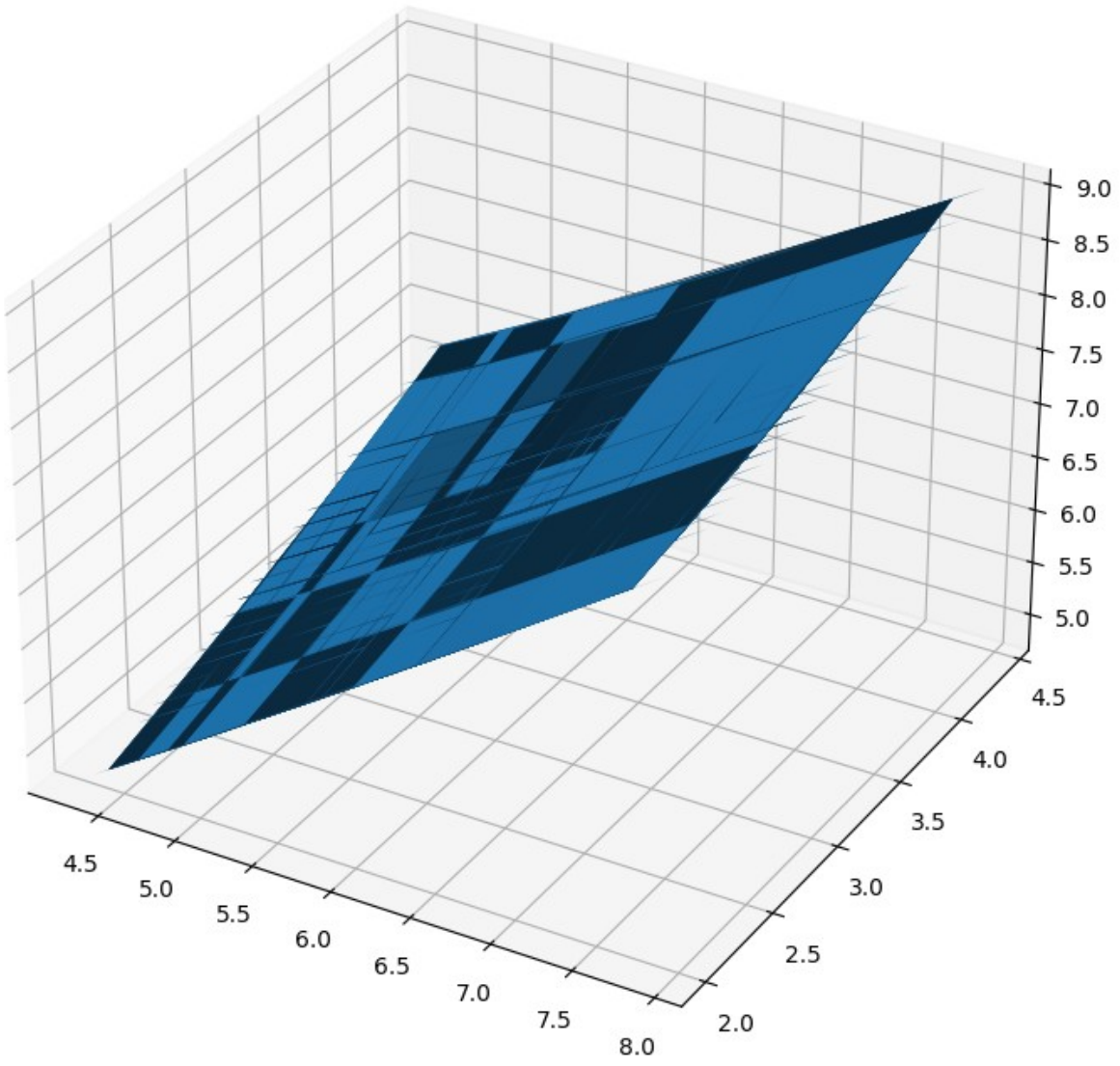

```
plt.figure(figsize=(10,10))
sns.heatmap(df.corr(),linecolor="white",linewidth=1,annot=True)
plt.show()
```




```
plt.figure(figsize=(14,9))
sns.kdeplot(x="SepalLengthCm",y="SepalWidthCm",data=df,cmap="viridis")
plt.show()
```




```
x=df["SepalLengthCm"]
y=df["SepalWidthCm"]
X,Y=np.meshgrid(x,y)
Z=np.sqrt(X**2+Y**2)
plt.figure(figsize=(9,9))
ax=plt.axes(projection='3d')
ax.plot_surface(X,Y,Z)
plt.show()
```


9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0