Data Visualization - III

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

In [ ]:
```
df1=pd.read_csv('/content/iris.csv')
df1
```

Out[ ]:

	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 [ ]:
```
df=pd.DataFrame(df1)
df.head()
```

Out[ ]:

	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 [ ]:
```
df.describe()
```

Out[ ]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
count	150.000000	150.000000	150.000000	150.000000	150.000000

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
mean	75.500000	5.843333	3.054000	3.758667	1.198667
std	43.445368	0.828066	0.433594	1.764420	0.763161
min	1.000000	4.300000	2.000000	1.000000	0.100000
25%	38.250000	5.100000	2.800000	1.600000	0.300000
50%	75.500000	5.800000	3.000000	4.350000	1.300000
75%	112.750000	6.400000	3.300000	5.100000	1.800000
max	150.000000	7.900000	4.400000	6.900000	2.500000

In [ ]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 6 columns):
 #   Column         Non-Null Count  Dtype  
---  ------         --------------  -----  
 0   Id             150 non-null    int64  
 1   SepalLengthCm  150 non-null    float64
 2   SepalWidthCm   150 non-null    float64
 3   PetalLengthCm  150 non-null    float64
 4   PetalWidthCm   150 non-null    float64
 5   Species        150 non-null    object 
dtypes: float64(4), int64(1), object(1)
memory usage: 7.2+ KB
```

In [ ]:
```
df.columns
```

Out[ ]:
```
Index(['Id', 'SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm',
       'Species'],
      dtype='object')
```

In [ ]:
```
df['SepalLengthCm'].max()
```

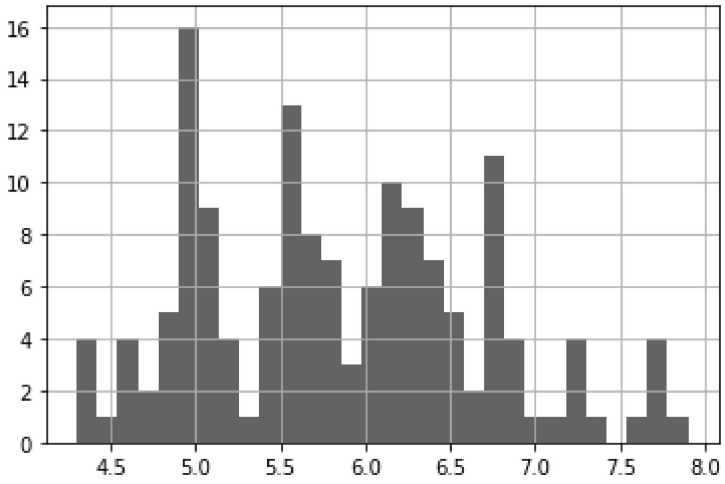
Out[ ]:
```
7.9
```

In [ ]:
```
df['SepalLengthCm'].min()
```

Out[ ]:
```
4.3
```

In [ ]:
```
df['SepalLengthCm'].hist(bins=30)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb58296150>
```



In [ ]:
```
df['PetalLengthCm'].max()
```

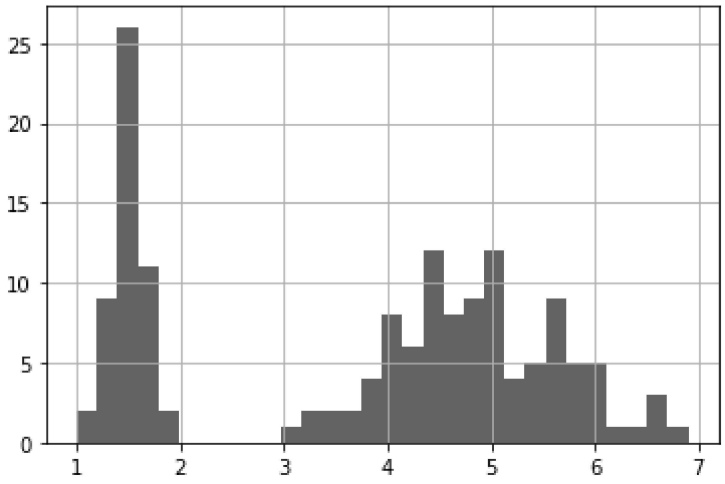
Out[ ]: 6.9

In [ ]:
```
df['PetalLengthCm'].min()
```

Out[ ]: 1.0

In [ ]:
```
df['PetalLengthCm'].hist(bins=30)
```

Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7fdb581536d0>



In [ ]:
```
df['PetalWidthCm'].max()
```

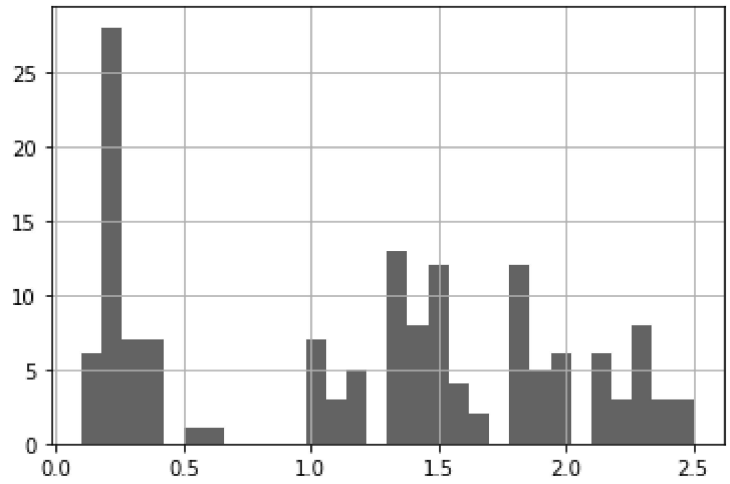
Out[ ]: 2.5

In [ ]:
```
df['PetalWidthCm'].min()
```

Out[ ]: 0.1

In [ ]:
```
df['PetalWidthCm'].hist(bins=30)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb57beff50>
```



In [ ]:
```
df['SepalWidthCm'].max()
```

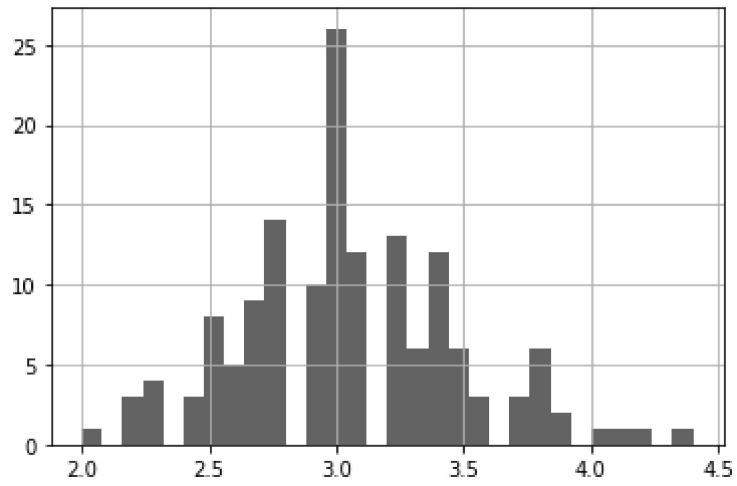
Out[ ]:
```
4.4
```

In [ ]:
```
df['SepalWidthCm'].min()
```

Out[ ]:
```
2.0
```

In [ ]:
```
df['SepalWidthCm'].hist(bins=30)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb57b6da50>
```

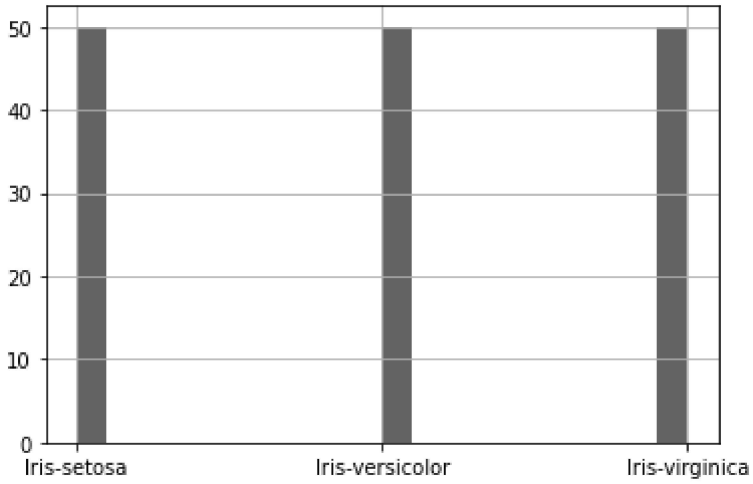


In [ ]:
```
df['Species'].value_counts()
```

Out[ ]:
```
Iris-setosa        50
Iris-versicolor    50
Iris-virginica     50
Name: Species, dtype: int64
```

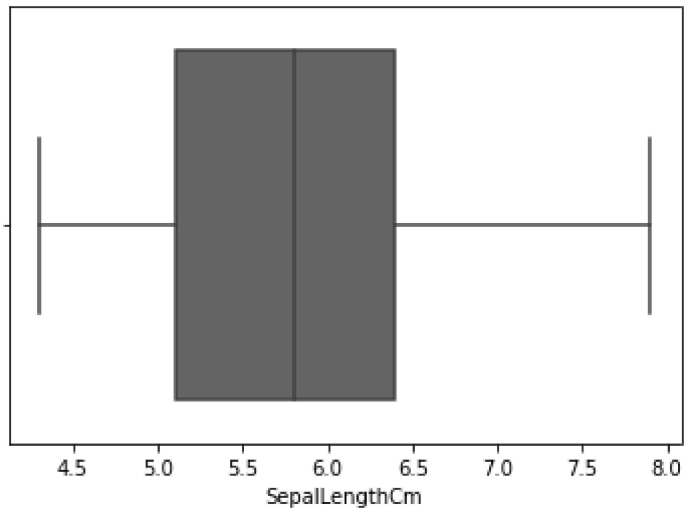
In [ ]:
```
df['Species'].hist(bins=20)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb57a7e250>
```



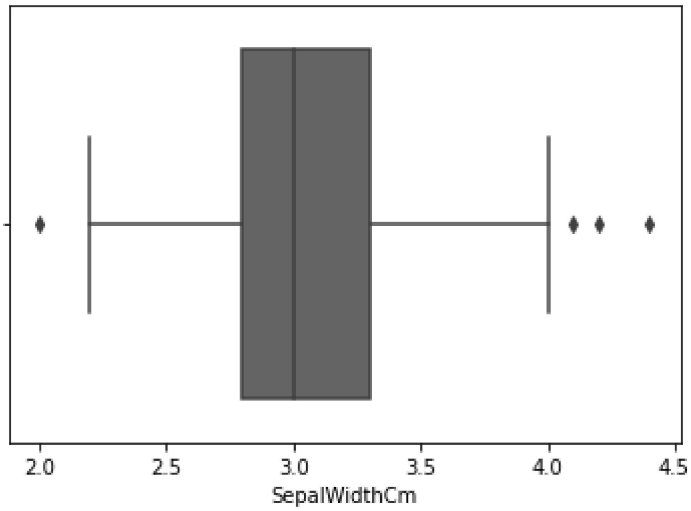
In [ ]:
```
sns.boxplot(x='SepalLengthCm',data=df)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb57a50bd0>
```



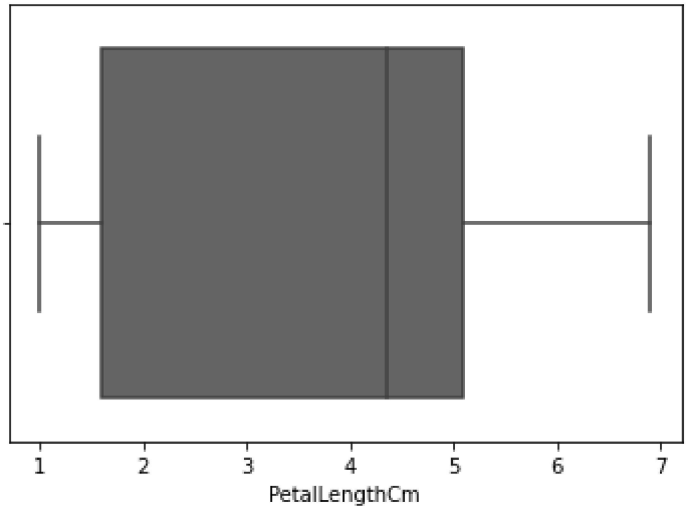
In [ ]:
```
sns.boxplot(x='SepalWidthCm',data=df)
```

Out[ ]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7fdb57976390>
```



In [ ]:
```
sns.boxplot(x='PetalLengthCm',data=df)
```

Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7fdb578f5d50>



In [ ]:
```
sns.boxplot(x='PetalWidthCm',data=df)
```

Out[ ]: <matplotlib.axes._subplots.AxesSubplot at 0x7fdb57868e50>