```python
In [ ]:   #%%

          import pandas as pd
```

```python
In [ ]:   #%%

          df = pd.read_csv("boston_housing.csv",index_col=0 )
          df.describe()
```

Out[ ]:

	CRIM	ZN	INDUS	CHAS	NOX	RM	AGE	DIS	
count	506.000000	506.000000	506.000000	506.000000	506.000000	506.000000	506.000000	506.000000	506.00
mean	3.613524	11.363636	11.136779	0.069170	0.554695	6.284634	68.574901	3.795043	9.54
std	8.601545	23.322453	6.860353	0.253994	0.115878	0.702617	28.148861	2.105710	8.70
min	0.006320	0.000000	0.460000	0.000000	0.385000	3.561000	2.900000	1.129600	1.00
25%	0.082045	0.000000	5.190000	0.000000	0.449000	5.885500	45.025000	2.100175	4.00
50%	0.256510	0.000000	9.690000	0.000000	0.538000	6.208500	77.500000	3.207450	5.00
75%	3.677083	12.500000	18.100000	0.000000	0.624000	6.623500	94.075000	5.188425	24.00
max	88.976200	100.000000	27.740000	1.000000	0.871000	8.780000	100.000000	12.126500	24.00

```python
In [ ]:   # %%

          df["MEDV"].plot.box()
```

Out[ ]:   <Axes: >
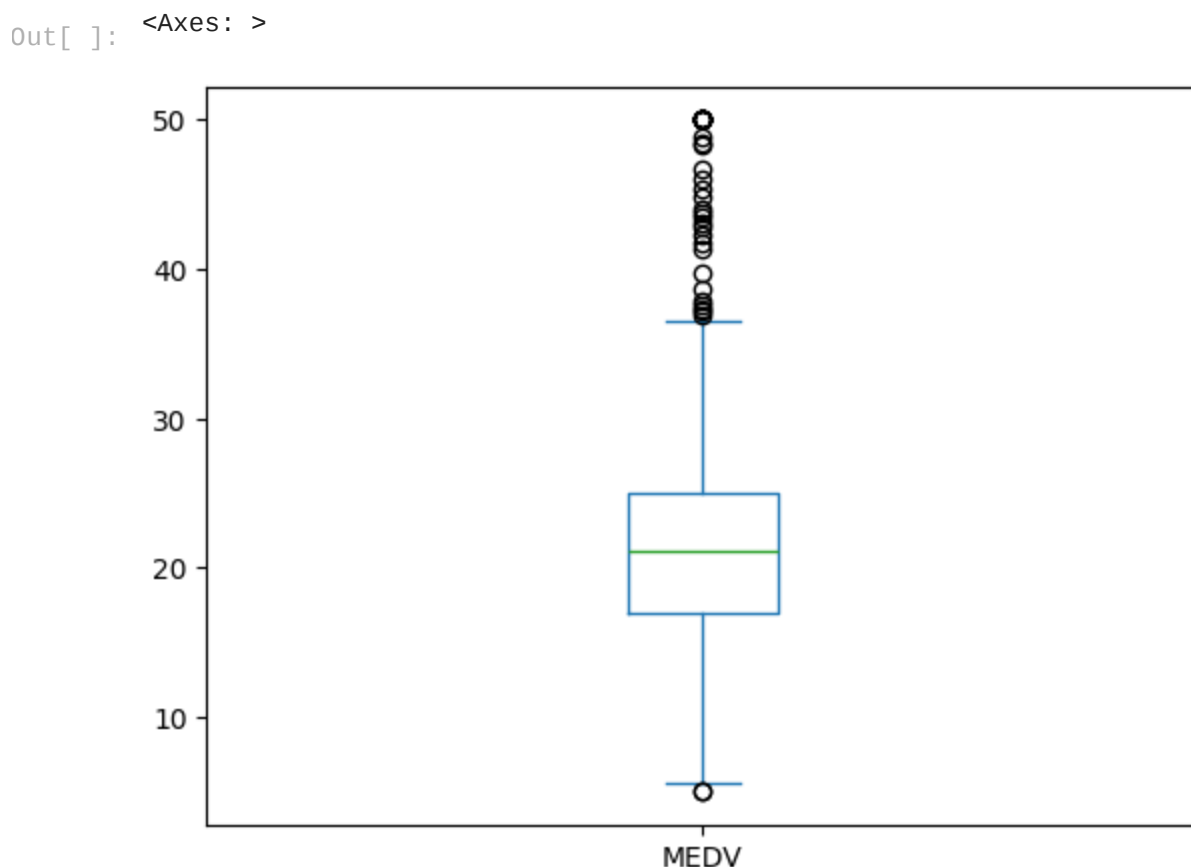

```python
In [ ]:   #%%

          df["CHAS"].value_counts().plot.bar()
```
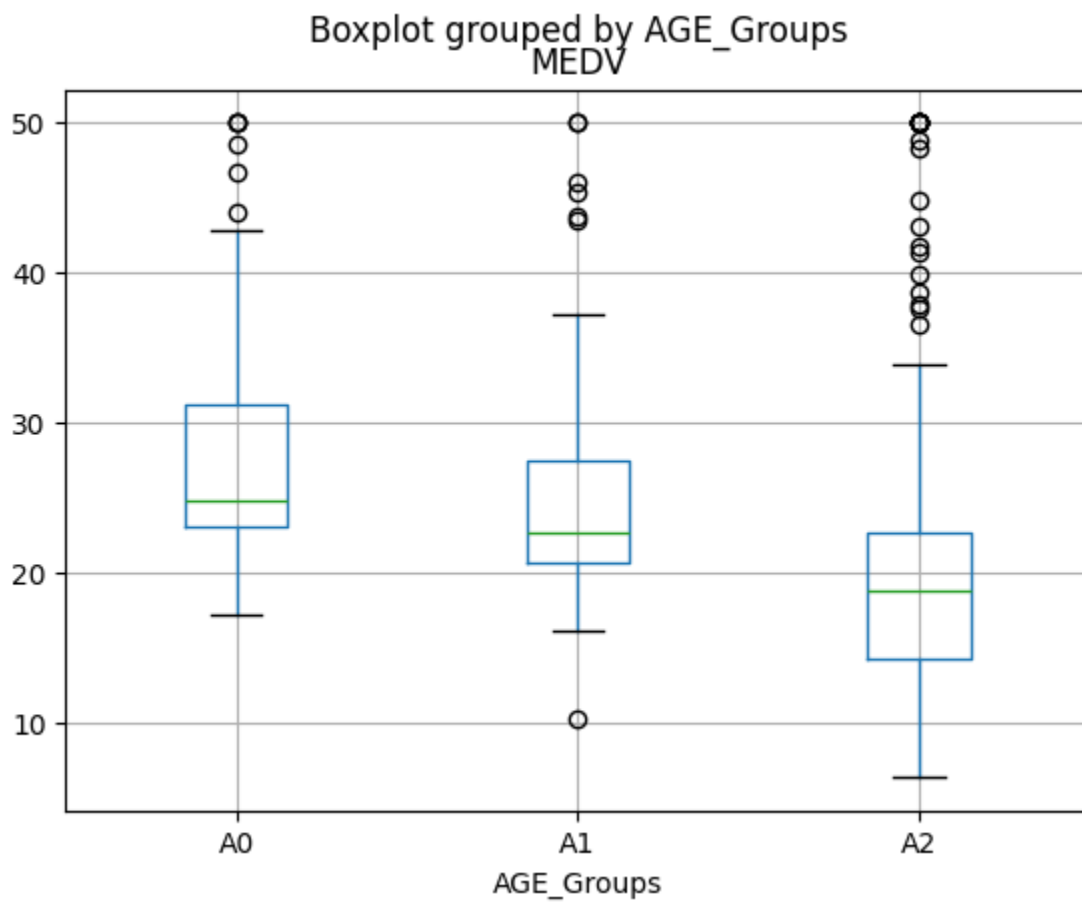
Out[ ]:   <Axes: xlabel='CHAS'>
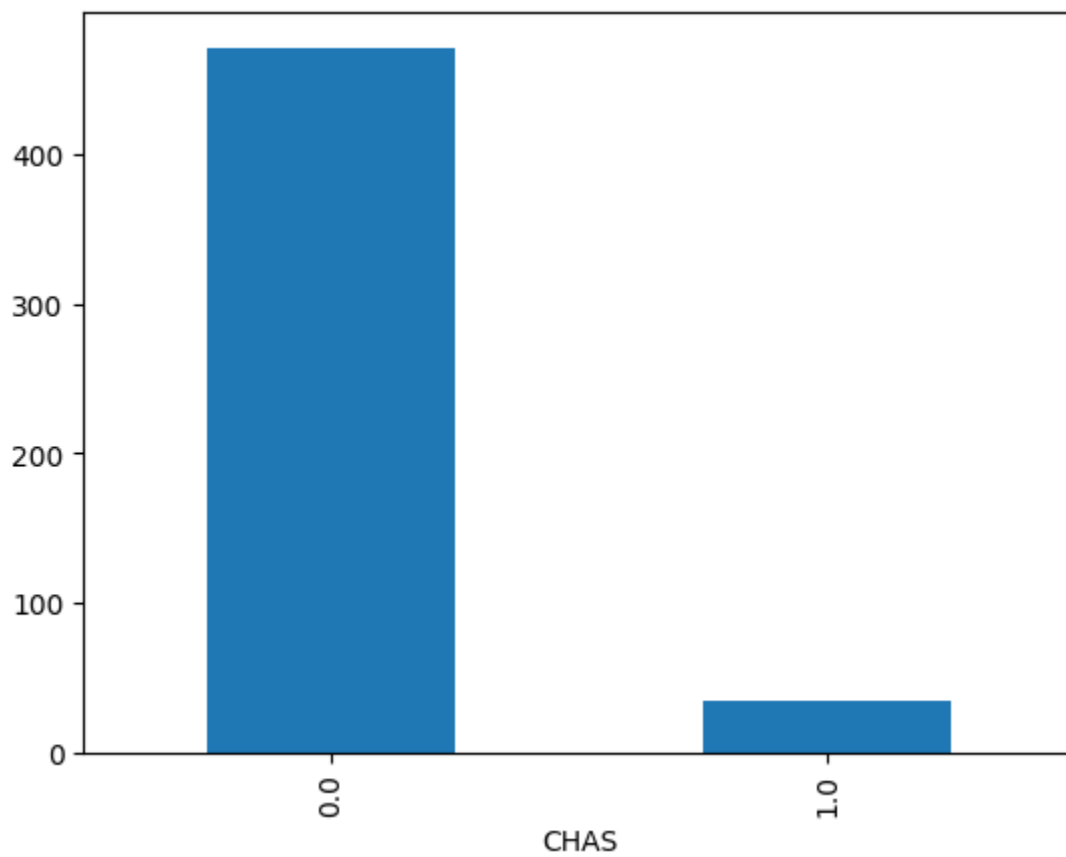
```
In [ ]:  #%%

         bins = [0, 35, 70, max(df["AGE"])]
         labels = ['A0', 'A1', 'A2']
         df['AGE_Groups'] = pd.cut(df['AGE'], bins, labels=labels, right=False)
         df.boxplot("MEDV","AGE_Groups")
```
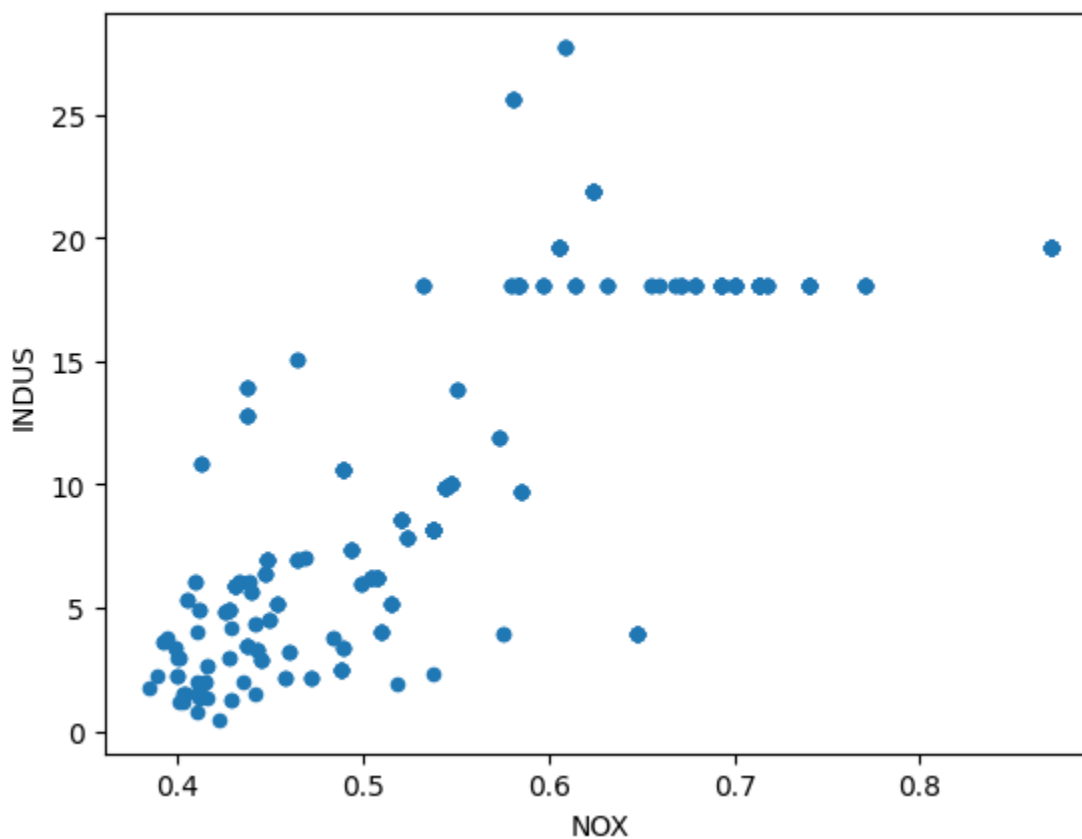
Out[ ]: <Axes: title={'center': 'MEDV'}, xlabel='AGE_Groups'>

Boxplot grouped by AGE_Groups
MEDV

In [ ]:
```
#%%

df.plot.scatter("NOX","INDUS")
    # What can you say about the relationship?
    # NoX affect directly on INDUS
```

Out[ ]: `<Axes: xlabel='NOX', ylabel='INDUS'>`

```
In [ ]:  #%%

         df["PTRATIO"].plot.hist()
```

Out[ ]: <Axes: ylabel='Frequency'>


```
In [ ]:  #%%

         df["PTRATIO"].plot.hist()
```