In [1]:
```
# calculating a  5 number summary
import numpy as np
from numpy import percentile
from numpy.random import rand
```

In [3]:
```
# generate data sample
data = rand(50)
data1=[-1,-0.5,1.5,2]
data = np.append(data,data1)
print("the sample data is : ",data)
```

```
the sample data is :  [ 0.8506205   0.05360699  0.77912376  0.13913367  0.92402428  0.16
189229
  0.45054394  0.49041542  0.17099377  0.51793495  0.97916142  0.45551805
  0.23974456  0.6629037   0.42068996  0.52829622  0.76648748  0.46091322
  0.67056437  0.59231844  0.42515772  0.69889343  0.50554897  0.0985903
  0.44601959  0.10346982  0.66684965  0.85290643  0.24362548  0.01667414
  0.31439887  0.65400077  0.84353048  0.01674268  0.00959372  0.18101659
  0.1410921   0.22294679  0.48644232  0.76697651  0.0076259   0.99223488
  0.5786601   0.76357969  0.78982901  0.77439799  0.39366842  0.0085175
  0.87515826  0.01137869 -1.         -0.5         1.5         2.        ]
```

In [4]:
```
# calculate quartiles
quartiles = percentile(data,[25,50,75])
print("the Q1 value is ",quartiles[0])
print("the median value is :", quartiles[1])
print("the Q3 value is : ",quartiles[2])
```

```
the Q1 value is  0.16416766290427592
the median value is : 0.47367777272760375
the Q3 value is :  0.7657605324390804
```

In [5]:
```
# calculate minimum value
data_min = data.min()
print("the minimum value of data is : ", data_min)
```

```
the minimum value of data is :  -1.0
```

In [6]:
```
# calculate maximum value
data_max = data.max()
print(" the maximum value of data is :", data_max)
```

```
 the maximum value of data is : 2.0
```

In [7]:
```
# to check in box polt
import seaborn as sns
sns.boxplot(data)
```

```
E:\photos\ANACONDA\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the
following variable as a keyword arg: x. From version 0.12, the only valid positional arg
ument will be `data`, and passing other arguments without an explicit keyword will resul
t in an error or misinterpretation.
  warnings.warn(
```

Out[7]:
```
<AxesSubplot:>
```