In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from scipy import stats
```

In [3]:
```
cars = pd.read_csv('cars.csv')
cars
```

Out[3]:

	HP	MPG	VOL	SP	WT
0	49	53.700681	89	104.185353	28.762059
1	55	50.013401	92	105.461264	30.466833
2	55	50.013401	92	105.461264	30.193597
3	70	45.696322	92	113.461264	30.632114
4	53	50.504232	92	104.461264	29.889149
...	...	...	...	...	...
76	322	36.900000	50	169.598513	16.132947
77	238	19.197888	115	150.576579	37.923113
78	263	34.000000	50	151.598513	15.769625
79	295	19.833733	119	167.944460	39.423099
80	236	12.101263	107	139.840817	34.948615

81 rows × 5 columns

In [4]:
```
# P(MPG>38)
1-stats.norm.cdf(38,cars.MPG.mean(),cars.MPG.std())
```

Out[4]:
```
0.3475939251582705
```

In [5]:
```
# P(MPG<40)
stats.norm.cdf(40,cars.MPG.mean(),cars.MPG.std())
```

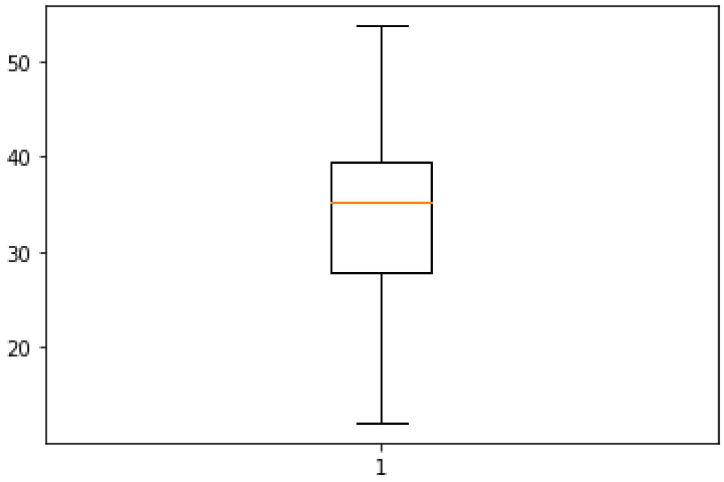
Out[5]:
```
0.7293498762151616
```

In [6]:
```
# P (20<MPG<50)
stats.norm.cdf(0.50,cars.MPG.mean(),cars.MPG.std())-stats.norm.cdf(0.20,cars.MPG.
```

Out[6]:
```
1.2430968797327613e-05
```

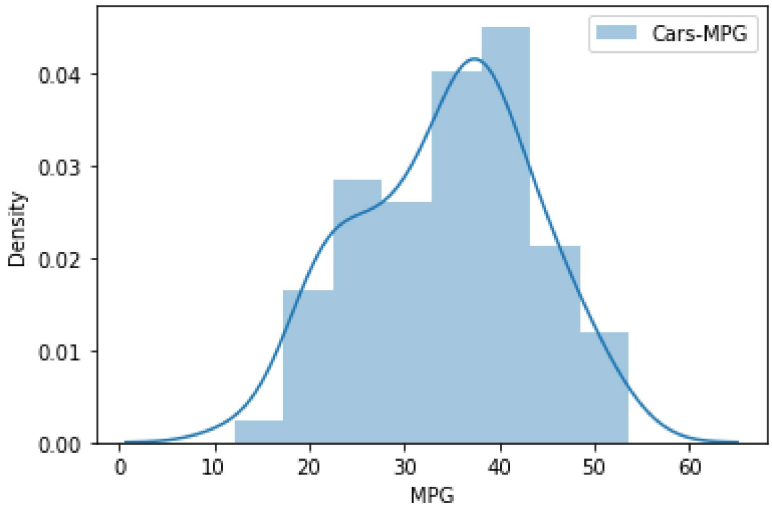
In [7]:
```
plt.boxplot(cars.MPG)
```

Out[7]:
```
{'whiskers': [<matplotlib.lines.Line2D at 0x1da641439d0>,
  <matplotlib.lines.Line2D at 0x1da64143d30>],
 'caps': [<matplotlib.lines.Line2D at 0x1da64144280>,
  <matplotlib.lines.Line2D at 0x1da641445e0>],
 'boxes': [<matplotlib.lines.Line2D at 0x1da641434c0>],
 'medians': [<matplotlib.lines.Line2D at 0x1da64144af0>],
 'fliers': [<matplotlib.lines.Line2D at 0x1da64144e50>],
 'means': []}
```



In [8]:
```
sns.distplot(cars.MPG, label='Cars-MPG')
plt.xlabel('MPG')
plt.ylabel('Density')
plt.legend();
```

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Futur
eWarning: `distplot` is a deprecated function and will be removed in a future v
ersion. Please adapt your code to use either `displot` (a figure-level function
with similar flexibility) or `histplot` (an axes-level function for histogram
s).
  warnings.warn(msg, FutureWarning)
```



In [9]:
```
cars.MPG.mean()
```

Out[9]:
```
34.422075728024666
```

In [10]:
```
cars.MPG.median()
```

Out[10]:
```
35.15272697
```

In [11]:
```
wcat=pd.read_csv('wc-at.csv')
wcat
```

Out[11]:

	Waist	AT
0	74.75	25.72
1	72.60	25.89
2	81.80	42.60
3	83.95	42.80
4	74.65	29.84
...	...	...
104	100.10	124.00
105	93.30	62.20
106	101.80	133.00
107	107.90	208.00
108	108.50	208.00

109 rows × 2 columns

In [12]:
```
# plotting distribution for Waist Circumference (Waist)
sns.distplot(wcat.Waist)
plt.ylabel('density');
```

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Futur
eWarning: `distplot` is a deprecated function and will be removed in a future v
ersion. Please adapt your code to use either `displot` (a figure-level function
with similar flexibility) or `histplot` (an axes-level function for histogram
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  warnings.warn(msg, FutureWarning)
```
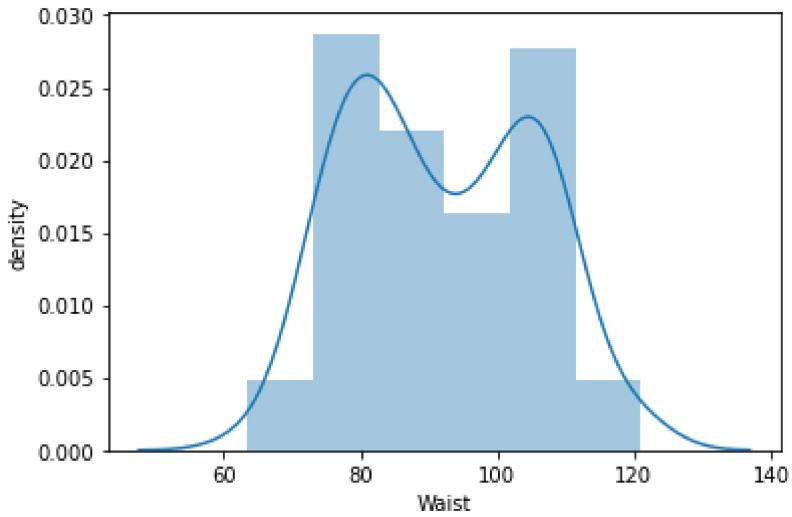
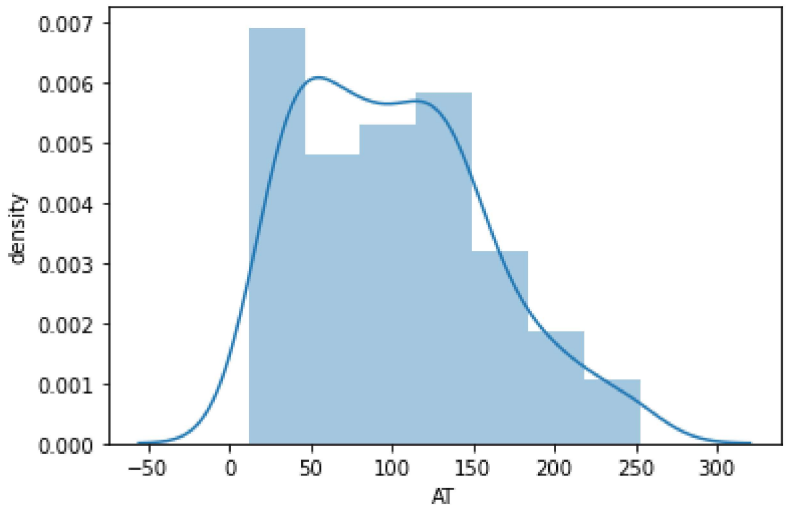



In [13]:
```
# WC
wcat.Waist.mean() , wcat.Waist.median()
```

Out[13]:
```
(91.90183486238533, 90.8)
```

In [14]:
```
# plotting distribution for Adipose Tissue (AT)
sns.distplot(wcat.AT)
plt.ylabel('density');
```

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Futur
eWarning: `distplot` is a deprecated function and will be removed in a future v
ersion. Please adapt your code to use either `displot` (a figure-level function
with similar flexibility) or `histplot` (an axes-level function for histogram
s).
  warnings.warn(msg, FutureWarning)
```



In [15]:
```
# AT
wcat.AT.mean() , wcat.AT.median()
```

Out[15]:
```
(101.89403669724771, 96.54)
```

In [ ]:
```

```