Calculate Skewness, Kurtosis & draw inferences on the following data

In [1]:
```
import pandas as pd
```

In [2]:
```
cars_speed_distance=pd.read_csv("Q9_a.csv")
sp_weight=pd.read_csv("Q9_b.csv")
```

In [3]:
```
cars_speed_distance.head()
```

Out[3]:

	Index	speed	dist
0	1	4	2
1	2	4	10
2	3	7	4
3	4	7	22
4	5	8	16

In [4]:
```
sp_weight.head()
```

Out[4]:

	Unnamed: 0	SP	WT
0	1	104.185353	28.762059
1	2	105.461264	30.466833
2	3	105.461264	30.193597
3	4	113.461264	30.632114
4	5	104.461264	29.889149

In [5]:
```
cars_speed_distance.shape,sp_weight.shape
```

Out[5]:
```
((50, 3), (81, 3))
```

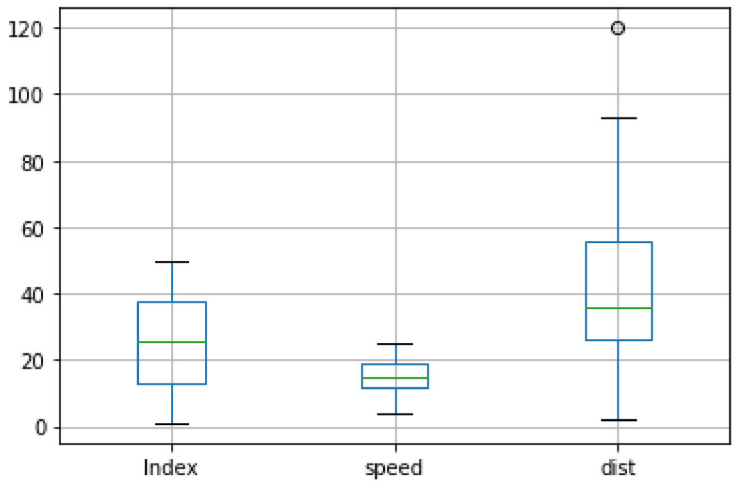
In [6]:
```
round(cars_speed_distance.describe(),2)
```

Out[6]:

	Index	speed	dist
count	50.00	50.00	50.00
mean	25.50	15.40	42.98
std	14.58	5.29	25.77
min	1.00	4.00	2.00
25%	13.25	12.00	26.00
50%	25.50	15.00	36.00
75%	37.75	19.00	56.00
max	50.00	25.00	120.00

In [7]:
```
cars_speed_distance.boxplot()
```

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



In [8]:
```
cars_speed_distance["dist"].median()
# according to the data at avg speed of 15.5 the dist covered is 36
```

Out[8]:
```
36.0
```

In [9]:
```
round(sp_weight.describe(),0)
#at 122 sp mean weight is 32
```

Out[9]:

	Unnamed: 0	SP	WT
count	81.0	81.0	81.0
mean	41.0	122.0	32.0
std	24.0	14.0	7.0
min	1.0	100.0	16.0
25%	21.0	114.0	30.0
50%	41.0	118.0	33.0
75%	61.0	126.0	37.0
max	81.0	170.0	53.0

In [10]:
```
sp_weight.columns
```

Out[10]:
```
Index(['Unnamed: 0', 'SP', 'WT'], dtype='object')
```

In [11]:
```
from scipy.stats import kurtosis
from scipy.stats import skew
```

In [12]:
```
cars_speed_distance=cars_speed_distance.drop("Index",axis=1)
```

In [13]:
```
sp_weight=sp_weight.drop("Unnamed: 0",axis=1)
```

In [20]:
```
print("Kurtosis:\n",cars_speed_distance.kurtosis(),"\n\n","Skewness:\n",cars_spee
# as kurtosis is less than 3 dataset has less tails
#speed is -ve skewed and dist is +ve skewed
#+ve skewed is right skewed and -ve skewed is left skewed
```

```
Kurtosis:
 speed   -0.508994
dist     0.405053
dtype: float64

 Skewness:
 speed   -0.117510
dist     0.806895
dtype: float64
```

In [21]:
```
print("Kurtosis:\n",sp_weight.kurtosis(),"\n\n","Skewness:\n",sp_weight.skew())
# as kurtosis is less than 3 dataset has less tails
#WT is -ve skewed and SP is +ve skewed
#+ve skewed is right skewed and -ve skewed is left skewed
```

```
Kurtosis:
 SP    2.977329
WT    0.950291
dtype: float64

 Skewness:
 SP    1.611450
WT   -0.614753
dtype: float64
```

In [ ]:
```
#Skewness affects "accuracy" and kurtosis affects "stability"
```