Question No.1

Look at the data given below. Plot the data, find the outliers and find out μ,σ,σ^2?

Name of company Measure X Allied Signal 24.23% Bankers Trust 25.53% General Mills 25.41% ITT Industries 24.14% J.P.Morgan & Co. 29.62% Lehman Brothers 28.25% Marriott 25.81% MCI 24.39% Merrill Lynch 40.26% Microsoft 32.95% Morgan Stanley 91.36% Sun Microsystems 25.99% Travelers 39.42% US Airways 26.71% Warner-Lambert 35.00%

1. Import Necessary Libraries ¶

In [10]:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
import warnings
warnings.filterwarnings("ignore")
```

2. Data Collection

In [2]:

```
measures = pd.Series([24.23,25.53,25.41,24.14,29.62,28.25,25.81,24.39,40.26,32.95,91.36,25.
```

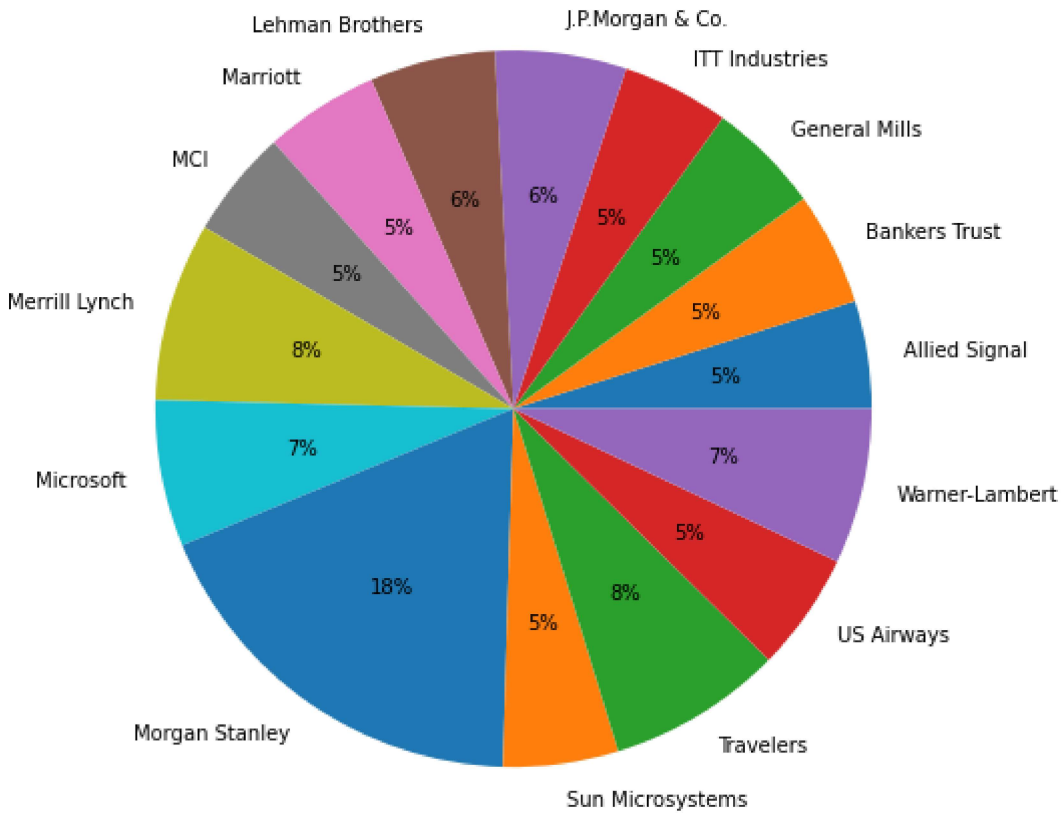
In [3]:

```
company_name=['Allied Signal','Bankers Trust','General Mills','ITT Industries','J.P.Morgan
      'Marriott','MCI','Merrill Lynch','Microsoft','Morgan Stanley','Sun Microsystems','Tra
      'Warner-Lambert']
```

3. Plot the data using pie chart

In [7]:

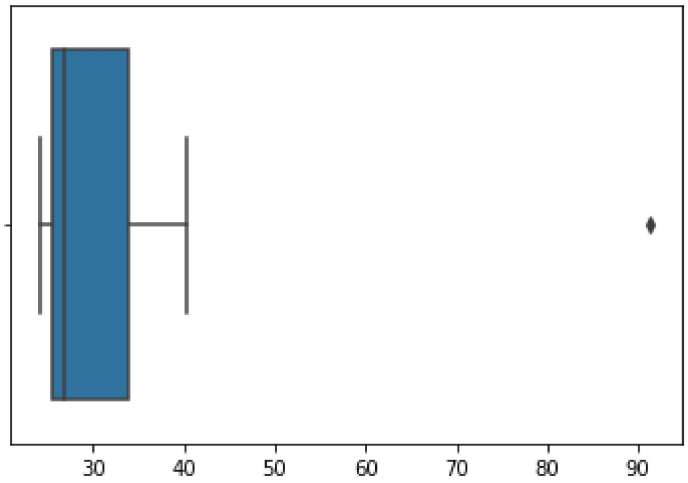
```
plt.figure(figsize=(8,10))
plt.pie(measures,labels=company_name,autopct='%1.0f%%')
plt.show()
```



4. Find the outliers using Box plot

In [14]:

```
sns.boxplot(measures)
plt.show()
```



There is only one datapoint " Morgan Stanley - 91.36%" is the outlier.

5.Find out μ,σ,σ^2

In [15]:

```
# Mean
measures.mean()
```

Out[15]:

```
33.27133333333333
```

In [16]:

```
# Vairance
measures.var()
```

Out[16]:

```
287.1466123809524
```

In [17]:

```
# Standard Deviation
measures.std()
```

Out[17]:

```
16.945400921222028
```