**The application of Variance and Standard in python programming language**

*# Python program to get average of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [2, 4, 4, 4, 5, 5,7,7, 7, 9,10]

*# Calculating average using average()*

(np.average(list))

Out[3]:

5.818181818181818

In [4]:

*# Python program to get average of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [2, 40, 2, 50, 17, 7, 9]

*# Calculating average using average()*

(np.average(list))

Out[4]:

18.142857142857142

In [5]:

*# Python program to get variance of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [2, 4, 4, 4,4,5, 5, 5, 7, 9]

*# Calculating variance using var*

(np.var(list))

Out[5]:

3.2900000000000005

In [7]:

*# Python program to get variance of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [212, 231, 234, 564, 235,235,235]

*# Calculating variance using var()*

(np.var(list))

Out[7]:

13692.0

In [10]:

*#se the NumPy var() method to find the variance:*

**import** **numpy**

speed = [32,111,138,28,59,77,97]

x = numpy.var(speed)

(x)

Out[10]:

1432.2448979591834

In [12]:

*# Python program to get*

*# standard deviation of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [2, 4, 4, 4,4,5, 5, 5, 7, 9]

*# Calculating standard*

*# deviation using var()*

(np.std(list))

Out[12]:

1.8138357147217055

In [13]:

*# Python program to get*

*# standard deviation of a list*

*# Importing the NumPy module*

**import** **numpy** **as** **np**

*# Taking a list of elements*

list = [290, 124, 127, 899]

*# Calculating standard*

*# deviation using var()*

(np.std(list))

Out[13]:

318.35750344541907

In [14]:

*#Example*

*#Use the NumPy std() method to find the standard deviation:*

**import** **numpy**

speed = [32,111,138,28,59,77,97]

x = numpy.std(speed)

(x)

Out[14]:

37.84501153334721