Statistical Functions in Python

Python has ability to solve the mathematical expression,statistical data by importing **statistic** keyword. Python can do various types of statistical and mathematical operations.

These functions calculate the average value from a sample or population.

mean ()	Arithmetic mean value (average) of data.
harmonic_mean ()	Harmonic mean value of data.
median ()	Median value (middle value) of data.
median__low()	Low median value of data.
median__high()	High median value of data.
median__grouped()	Median of the grouped data and also calculate the 50th percentile of the grouped data.
mode()	Maximum number of occurrence of data.

mean()

This function calculates the arithmetic mean or average value of sample data in sequence or iterator.

Example

```
list = [1, 2, 3,3,4,5,]
print ("The mean values is : ",end="")
print (statistics.mean(list))
```

Output

```
The mean value is : 3
```

harmonic_mean ()

This function calculates a sequential or iterative real- valued numbers (harmonic_ mean).

Example

```
list = [1,2,3]
print ("The harmonic _mean values is : ",end="")
print (statistics.harmonic_mean(list))
```

Output

```
The harmonic _mean values is :1.6
```

median ()

This function calculates middle value of thearithmetic data in iterative order.

Example

```
list= [1, 3,5,7]
print ("The median values is : ",end="")
print (statistics.median(list))
```

Output

```
The median values is :4.0
```

median__low()

This function calculates the median of data in case of odd number but in case of even number of elements it calculates the lower of two middle elements of the data.

Example

```
list = [1,2,2,3,3,3]
print ("The median_low values is : ",end="")
print (statistics.median_low(list))
```

Output

```
The median_low values is :2
```

median_high()

This function calculates the median of data incase of odd number, but in case of even number of elements, it calculates the higher of two middle elements of the data.

Example

```
list = [1,2,2,3,3,3]
print ("The median_high values is : ",end="")
print (statistics.median_high(list))
```

Output

```
The median_high values is :3
```

median_grouped()

This function is used to calculate median of the groped data also calculate 50th percentile of the grouped data

Example

```
list = [2,2,3,4]
print ("The median_grouped values is : ",end="")
print (statistics.median_grouped(list))
```

Output

```
The median_grouped values is : 2.5
```

mode()

This function return the most common data point from discrete or nominal data or number with maximum number of occurrences.

Example

```
list = [2,2,3,4,4,1,2]
print ("The mode values is : ",end="")
print (statistics.mode(list))
```

Output

```
The mode values is : 2
```

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