MACHINE LEARNING

LAB RECORD

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Experiment 1:

AIM: Write a python program to compute Central Tendency Measures: Mean, Median, Mode Measure of Dispersion: Variance, Standard Deviation.

PROGRAM:

```
import statistics as st
from math import isnan
from itertools import filterfalse
data=[20.7,float('NaN'),19.2,18.3,float('NaN'),14.4]
sorted(data)
print(data)
print(st.median(data))
sum(map(isnan,data))
clean=list(filterfalse(isnan,data))
print(clean)
print(sorted(clean))
print('median=',st.median(clean))
print('median_low=',st.median_low(clean))
print('median_high=',st.median_high(clean))
print('mode=',st.mode([1,1,2,3,3,3,3,4]))
print(‘mode=’,st.mode([“red”,”blue”,”blue”,”red”,”green”,”red”,”red”]))
print('multimode=',st.multimode(‘aabbbbccddddddeefffg’))
data1=[6,7,10,13,14,14,18,19,22,24]
print(‘Variance=’,st.variance(data1))
mean=st.mean(data1)
print('variance=',st.variance(data1,mean))
X=[3,5,6,6,7,8,12,14,15,19]
Y=[6,7,7,13,16,15,17,20,24,27]
print(‘Covariance=’,st.covariance(X,Y))
print('Correlation=’,st.correlation(X,Y))
```

Output:

```
[20.7, nan, 19.2, 18.3, nan, 14.4]
16.35
[20.7, 19.2, 18.3, 14.4]
[14.4, 18.3, 19.2, 20.7]
median= 18.75
median_low= 18.3
median_high= 19.2
mode= 3
mode=red
multimode=[‘d’]
Variance=36.67777777777778
Variance=36.67777777777778
Covariance=35.3333333333336
Correlation=0.9443522018799386
```