PRO

C109 : Properties of Normal Distribution

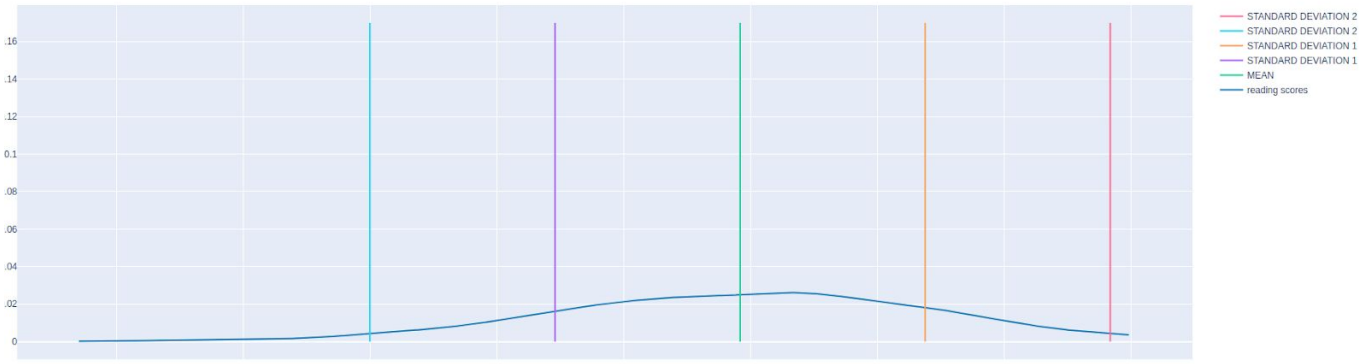
INSTRUCTIONS:

What was done in the class?
In Class 109, we learnt about the finding of the properties of the normal distribution..

The goal of the Project:
*I*n this project we will,

- We will write the program to find the inference on the data points of standard deviation 1,2 and 3.

```
Mean of this data is 69.169
Median of this data is 70.0
Mode of this data is 72
Standard deviation of this data is 14.600191937252216
66.4% of data lies within 1 standard deviation
95.4% of data lies within 2 standard deviations
99.6% of data lies within 3 standard deviations
```



***This is just for your reference. We expect you to apply your own creativity in the project.**

Download data from -
1.Student performance in tests.
https://www.kaggle.com/spscientist/students-performance-in-exams

Start of the Project:

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1. Download the data and add in the project folder.

Specific Tasks to complete the Project:

1. Import statistics library to the program file.
2. Find the mean, median, mode and standard deviation of the given data.
3. Find the standard deviation starting and ending points by subtracting the mean from standard deviation and adding mean to the standard deviation respectively.
4. Get the list of the data points between the standard deviation by looping on the results.
5. Find the percentage of the data in the lists.

Hints.

1. Code to find the starting and ending points by subtracting and adding mean from standard deviation.

```
#Finding 1 standard deviation stard and end values, and 2 standard deviations stard and end values
first_std_deviation_start, first_std_deviation_end = mean-std_deviation, mean+std_deviation
second_std_deviation_start, second_std_deviation_end = mean-(2*std_deviation), mean+(2*std_deviation)
third_std_deviation_start, third_std_deviation_end = mean-(3*std_deviation), mean+(3*std_deviation)
#Plotting the chart, and lines for mean, 1 standard deviation and 2 standard deviations
```

2. Code to getting the list of data points.

```
indings
thin_1_std_deviation = [result for result in data if result > first_std_deviation_start and result < first_std_deviation_end]
thin_2_std_deviation = [result for result in data if result > second_std_deviation_start and result < second_std_deviation_end]
thin_3_std_deviation = [result for result in data if result > third_std_deviation_start and result < third_std_deviation_end]
```

Submitting the Project:

1. Run and test your code
2. Create an empty repository with the project name.
3. Use git commands to push your project repository to this github repo.
4. Submit the link to your github repo for the project to us.

REMEMBER... Try your best, that's more important than being correct.

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After submitting your project your teacher will send you feedback on your work.

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