Run "pip install plotly==4.11.0" to install necessary packages
If it doesn't work try -
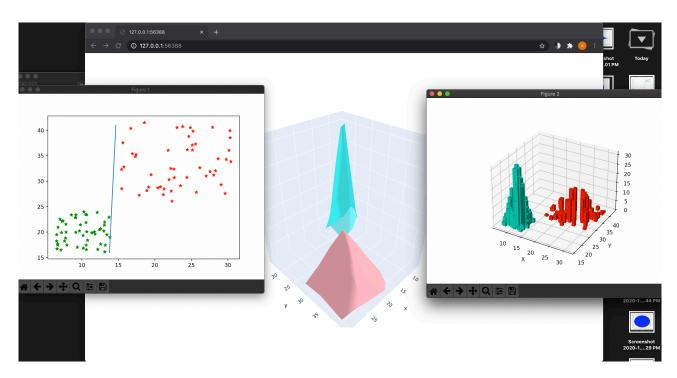**"pip3 install plotly==4.11.0"**

If you don't have pip please download it using the following link
- https://www.geeksforgeeks.org/how-to-install-pip-in-macos/

Please read the documentation for explanations

1.
Execute using "**python3 1.py**"
You'll be prompted to enter the value of P

2.
Execute using "**python3 2.py**"
plots should be displayed with the following terminal output
(**The graph with PLA will be hidden behind the histogram graph, move the histogram graph to see PLA graph**)

```
(midsem) sisir-macbook-pro-4:midsem sisirreddy$ python3 2.py
The Preset mean [10, 20], The preset Sigma [2, 2]
Computer generated mean [28, -12]  Sigma  [6, 6] for other dataset
Converged
The weights are  [1, -20.34, 40.209999999999994]
```

3.
Execute using "**python3 3.py**"

```
(midsem) sisir-macbook-pro-4:midsem sisirreddy$ python3 3.py
Prob of winning if you switch the door  0.6585
Prob of winning if dot't switch the door  0.3415
(midsem) sisir-macbook-pro-4:midsem sisirreddy$
```

4.

a.
Execute using "**python3 4a.py**"
You'll be prompted to enter the sample size

```
(midsem) sisir-macbook-pro-4:midsem sisirreddy$ python3 4a.py
Population mean  249.455676294528  Population Variance  101793.40152100599
Enter the sample size
1000
Sample mean  247.06971467395
Sample variance 88026.90987761552
(midsem) sisir-macbook-pro-4:midsem sisirreddy$
```

b.

Execute using "**python3 4a.py**"

You'll be prompted to enter sample size and the number of trials

For faster results -

Sample size = 100<sampleSize<1000

No of trials = 100<No of trials <1000

Sample size - The number of random samples to be generated at every trial

No of Trials - No of times different sets of {sample size} need to computed for mean and variance.

```
(midsem) sisir-macbook-pro-4:midsem sisirreddy$ python3 4b.py
Enter the size of the sample
1000
Enter the number of Trials
100
Population mean  249.455676294528  Population Variance  101793.40152100599
No of samples  1000
No of trials  100
Sets of 1000 samples variance  112620.4336332582
Mean of the samples is  255.27238837529677
(midsem) sisir-macbook-pro-4:midsem sisirreddy$
```