

```

def
get_pdf_probability(dataset, startrange,
endrange):
    from matplotlib import pyplot
    from scipy.stats import norm
    import seaborn as sns
    ax =
    sns.distplot(dataset, kde=True, kde_kws
    ={'color': 'blue'}, color='Green')
    pyplot.axvline(startrange, color='Red'
    )
    pyplot.axvline(endrange, color='Red')
    # generate a sample
    sample = dataset
    # calculate parameters
    sample_mean = sample.mean()
    sample_std = sample.std()
    print('Mean=%.3f, Standard
    Deviation=%.3f' % (sample_mean,
    sample_std))
    # define the distribution
    dist = norm(sample_mean, sample_std)

```



```

values = [value for value in
range(startrange, endrange)]
#probabilities = [dist.pdf(value) for value
in values]
probabilities = []
for value in values:
    probabilities.append(dist.pdf(value))
prob=sum(probabilities)
print("The area between
range({}, {}): {}".format(startrange, endrange
, sum(probabilities)))
return prob

```

## 🔍 Step-by-step meaning (in very simple words)

### 1 Draws a distribution graph

- Uses seaborn to plot the dataset's histogram + KDE curve.
- Draws two red vertical lines at:
  - `startrange`
  - `endrange`



This shows visually where the range lies.

## 2 Calculates mean and standard deviation

python

```
sample_mean = sample.mean()  
sample_std.std()
```

This finds:

- **Average value of the dataset**
- **Spread (std deviation) of the dataset**

### 3 Creates a normal distribution

```
python  
dist = norm(sample_std)
```

This assumes:

- "The dataset behaves like a
- normal (bell curve) distribution.

## 4 Computes PDF values inside the range

python

```
probabilities = []  
for value in values:  
    probabilities.append(dist.pdf(value))
```

For every integer between `startrange` and `endrange` , it calculates:



## 5 Returns the total PDF sum between the range

python

```
prob = sum(probabilities)
return prob
```



This is **not the true probability** but an **approximation** using PDF values.