Kurtosis :-

* Kurtosis is the measure of tailedness of the probability distribution of a real valued random variable.

* It measures how heavily or lightly the tails of the distribution differ from the normal distribution.

* There is controversy that whether Kurtosis measure peakedness or tailedness of the distribution.

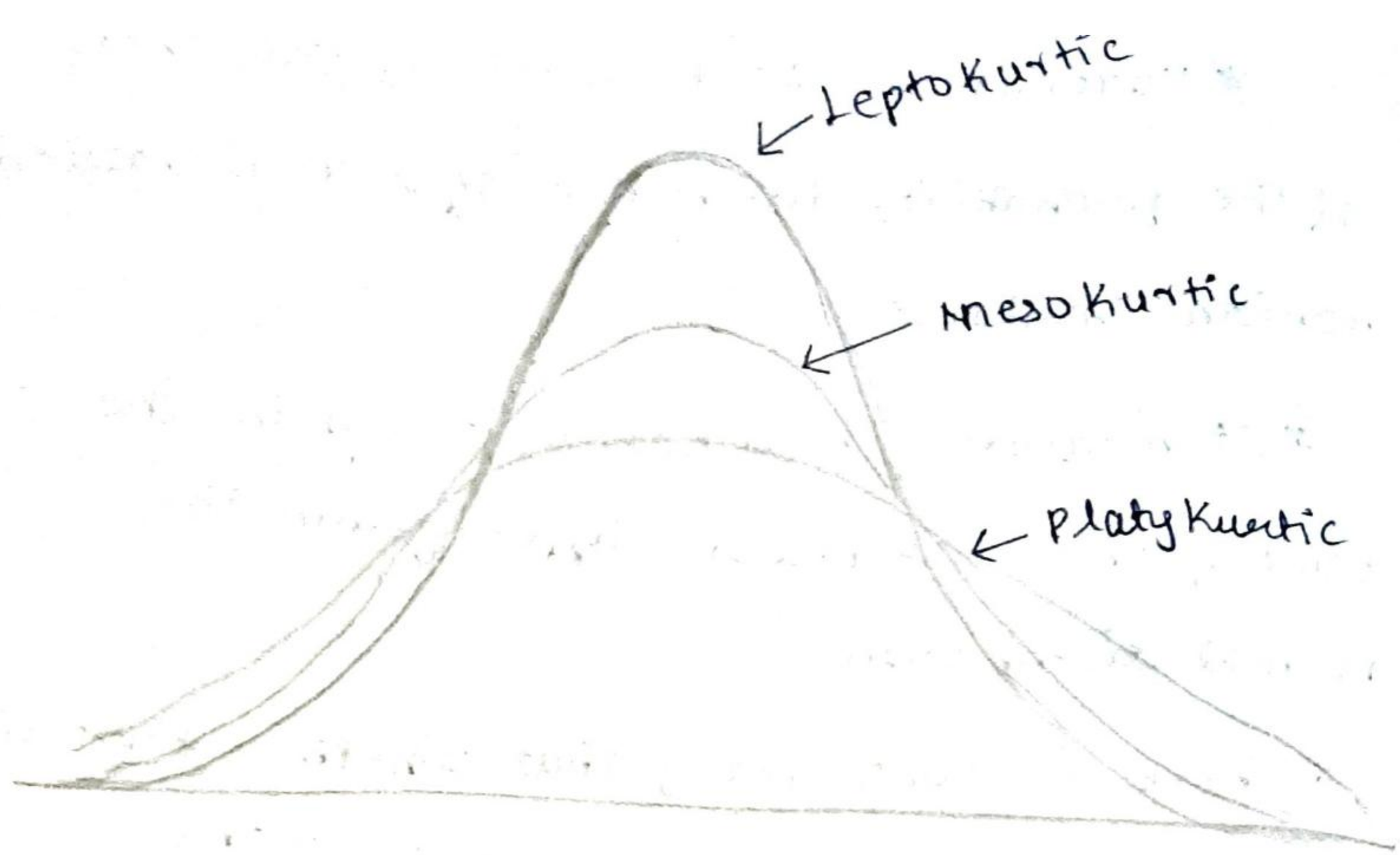
* The Answer is Kurtosis measures the tailedness.

* The reason is Kurtosis is the Fourth statistical moment with formula

$$\frac{1}{n}\left(\frac{\Sigma(x-H)^4}{\sigma^4}\right)$$

* This formula deals with or it contains the four factors of variance, means how the data is spread.

* So Kurtosis deals with tailedness of the distribution.



There are 3 types of Kurtosis:-

i) LeptoKurtic
ii) MesoKurtic
iii) PlatyKurtic

LeptoKurtic:-

* If the Kurtosis value is greater than 3 then the distribution is called LeptoKurtic.

* It is also called as positive Kurtosis

* LeptoKurtic distributions have longer tails or heavy tails.

* These heavy tails basically means the dataset is having more outliers or extreme value

Mesokurtic :-

* If the kurtosis value is exactly equal to 3, then the distribution is called as mesokurtic.

* Normal distributions have kurtosis value = 3.

* So there is no outliers or extreme values in the data set

Platykurtic :-

* If the kurtosis value is lesser than 3 then the distribution is called platykurtic.

* It is also called negative kurtosis.

* Platykurtic distributions have light tails.

* These light tails basically means the dataset is not having any outliers or extreme values.

Excess kurtosis :-

* The term excess kurtosis refers to metric used in statistics and probability theory comparing kurtosis coefficient with that of normal distribution.

✓ Excess Kurtosis signals the probability of obtaining an extreme value.

Excess Kurtosis	=	Kurtosis − 3

✓ If Excess Kurtosis is positive then it is Leptokurtic

✓ If Excess Kurtosis is negative then its Platykurtic

✓ If Excess Kurtosis is 0, then it is mesokurtic.