**Q-Q Plot:**  
The quantile-quantile plot is a graphical method for determining whether two samples of data came from the same population or not. A q-q plot is a plot of the quantiles of the first data set against the quantiles of the second data set. By a quantile, we mean the fraction (or percent) of points below the given value.

For the reference purpose, a 45% line is also plotted, if the samples are from the same population then the points are along this line.

#### Usage:

The Quantile-Quantile plot is used for the following purpose:

* Determine whether two samples are from the same population.
* Whether two samples have the same tail
* Whether two samples have the same distribution shape.
* Whether two samples have common location behavior.

#### How to Draw Q-Q plot

* Collect the data for plotting the quantile-quantile plot.
* Sort the data in ascending or descending order.
* Draw a normal distribution curve.
* Find the z-value (cut-off point) for each segment.
* Plot the dataset values against the normalizing cut-off points.

#### Advantages of Q-Q plot

* Since Q-Q plot is like probability plot. So, while comparing two datasets the sample size need not to be equal.
* Since we need to normalize the dataset, so we don’t need to care about the dimensions of values.

#### Types of Q-Q plots

* For Left-tailed distribution: Below is the plot.