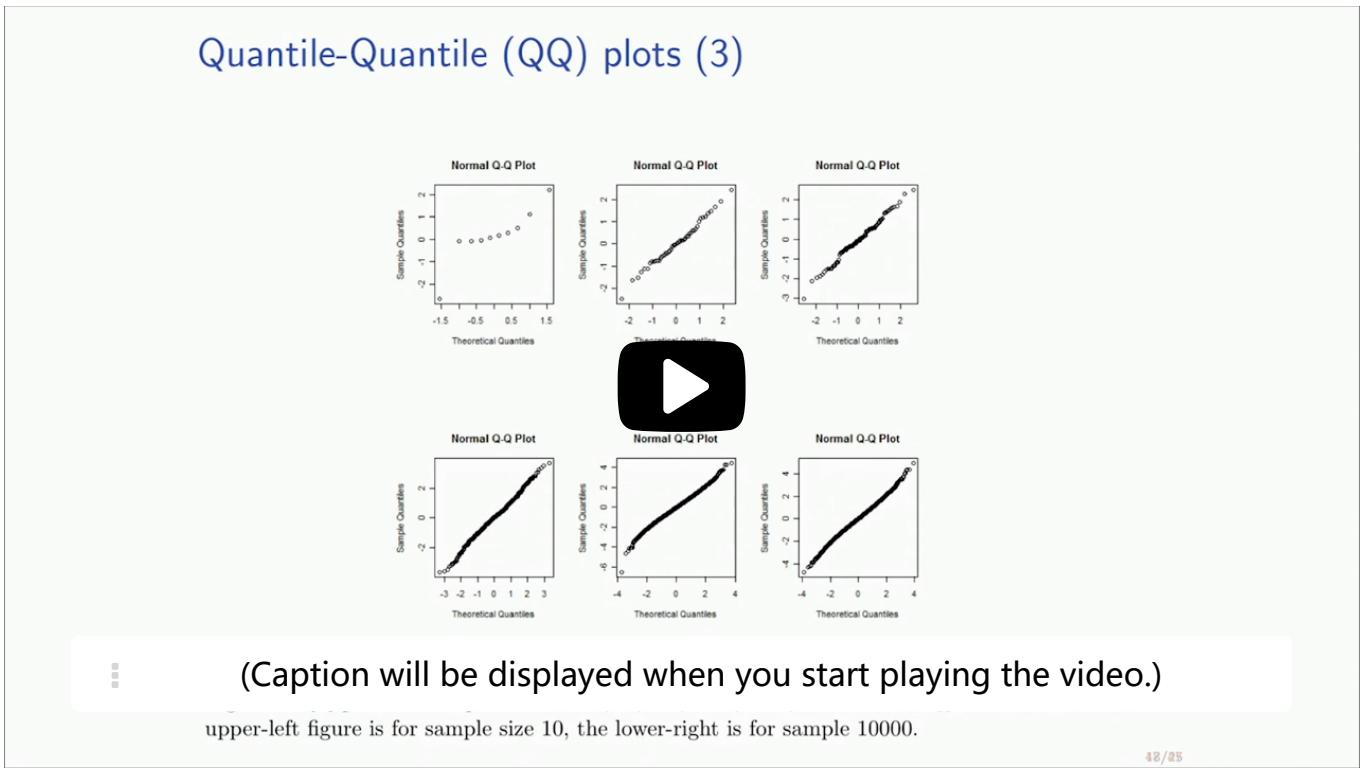
15. Quantile-Quantile (QQ) Plots of Different distributions
Quantiles of T-Distribution Versus Quantiles of Normal Distribution

Start of transcript. Skip to the end.



0:00 / 0:00 1.0x

OK.

So here's another example, of course, when things actually

don't work that well.

So here I'm not actually drawing a Gaussian.

I'm drawing a t distribution with 15 degrees of freedom.

So if I actually drew--

so let's try to see what we should anticipate

Video
Download video file

Transcripts
Download SubRip (.srt) file
Download Text (.txt) file

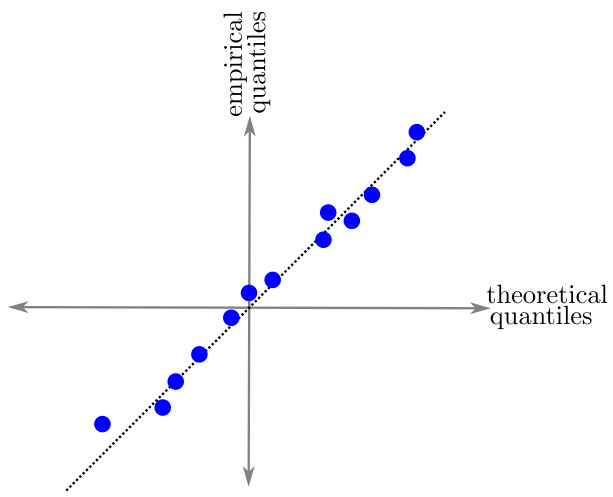
xuetangX.com 学堂在线

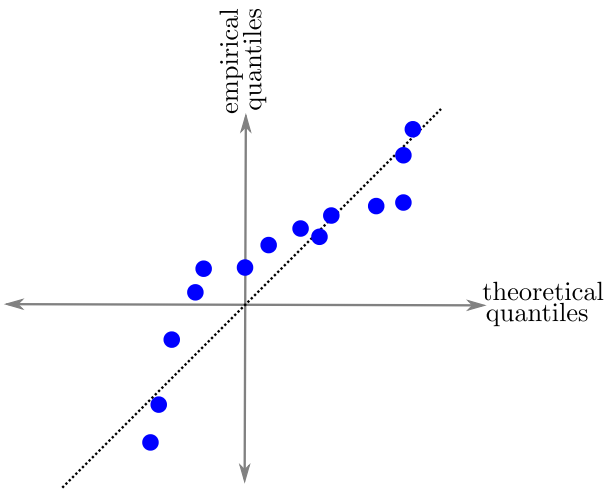
Comparing QQ Plots for Several Data Sets

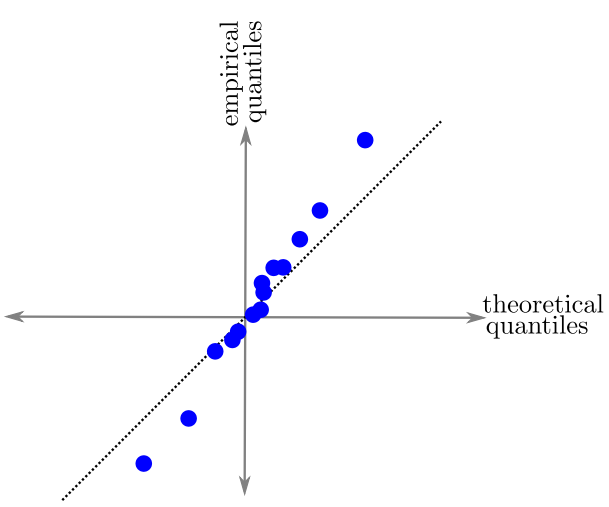
1/1 point (graded)

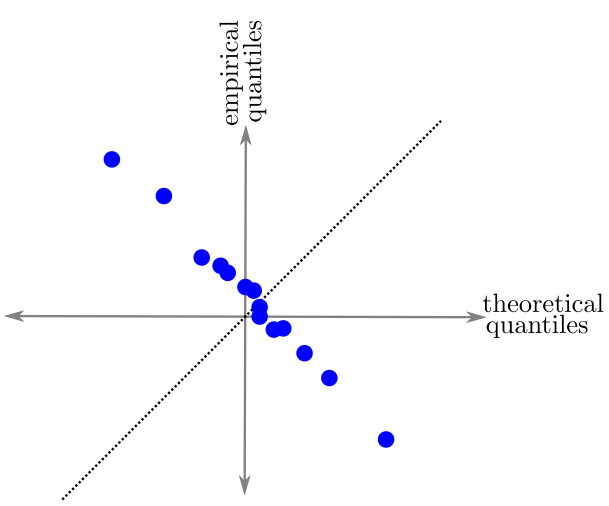
The images below denote QQ plots against the normal distribution $\mathcal{N}(0,1)$ for four different data sets.

In which figure does the QQ plot for the data set appear to be most closely distributed as $\mathcal{N}(0,1)$?









Solution:

According to the method above for constructing the QQ plot, it is reasonable to suppose our data is distributed as $\mathcal{N}(0,1)$ if the QQ plot consists of points close to the line $y = x$. Out of the all of the plots shown above, the points plotted for the first data set look are closest to the line $y = x$.

In the second image, we see that, for example, there is a deviation of the empirical cdf from the cdf $\Phi_{0,1}$ near the tails. In the third and fourth choices, the QQ plot is linear. However, the linear functions interpolating these plots do not seem to be similar to the line $y = x$ (they have very different slopes), so these choices are incorrect.

Remark: For the purpose of applications, it is important to note that different statistical software will use different procedures for constructing QQ plots. Therefore, it is crucial to understand exactly what the software is graphing to make conclusions regarding goodness of fit for our data.

Submit You have used 1 of 2 attempts

Answers are displayed within the problem

Discussion

Show Discussion

Topic: Unit 4 Hypothesis testing:Lecture 16: Goodness of Fit Tests Continued: Kolmogorov-Smirnov test, Kolmogorov-Lilliefors test, Quantile-Quantile Plots / 15. Quantile-Quantile (QQ) Plots of Different distributions