

Assignment 1 Template

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Problem 1: Fill in the information below based on your data set which was generated using your ID number as the seed for the random number generator.

The first five numbers in your Gaussian data set are:

-15.57	-14.70	-13.44	-11.51	-10.33
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Sample mean = 6.84365

Sample standard deviation =8.224135

The five number summary is:

-15.57	1.67	6.925	12.255	27.59
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Sample median = 6.925

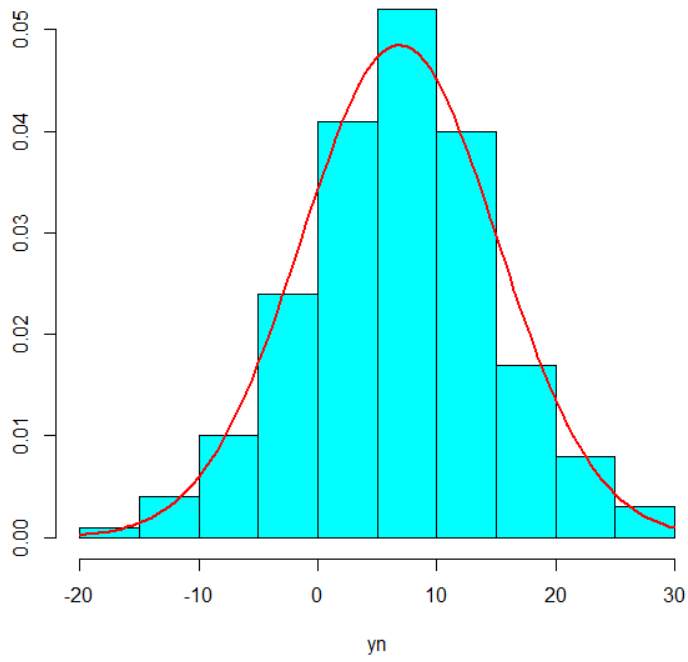
Range = 27.59-(-15.57)=43.16

IQR =12.255-1.67=10.585

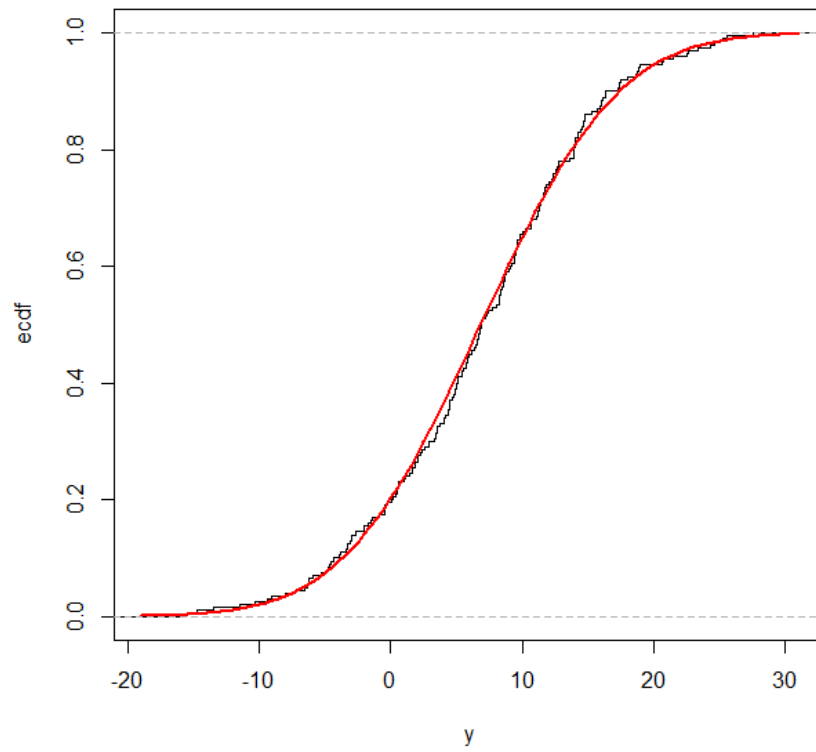
Sample skewness = -0.114017

Sample kurtosis = 2.956375

Relative Frequency Histogram of Data



Empirical and Gaussian C.D.F.'s



Problem 2: The first five numbers in your Exponential data set are:

0.01	0.08	0.09	0.10	0.10
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Sample mean = 7.39855

Sample standard deviation =8.194635

The five number summary is:

0.01	1.9	4.55	9.705	46.69
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Sample median = 4.55

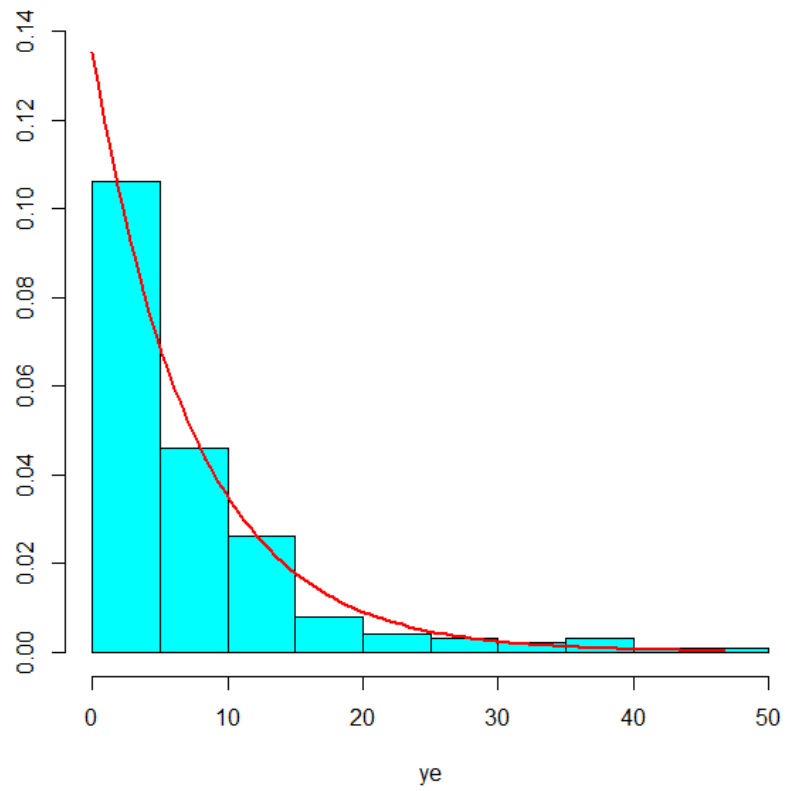
Range = 46.69-0.01=46.68

IQR =9.705-1.9=7.805

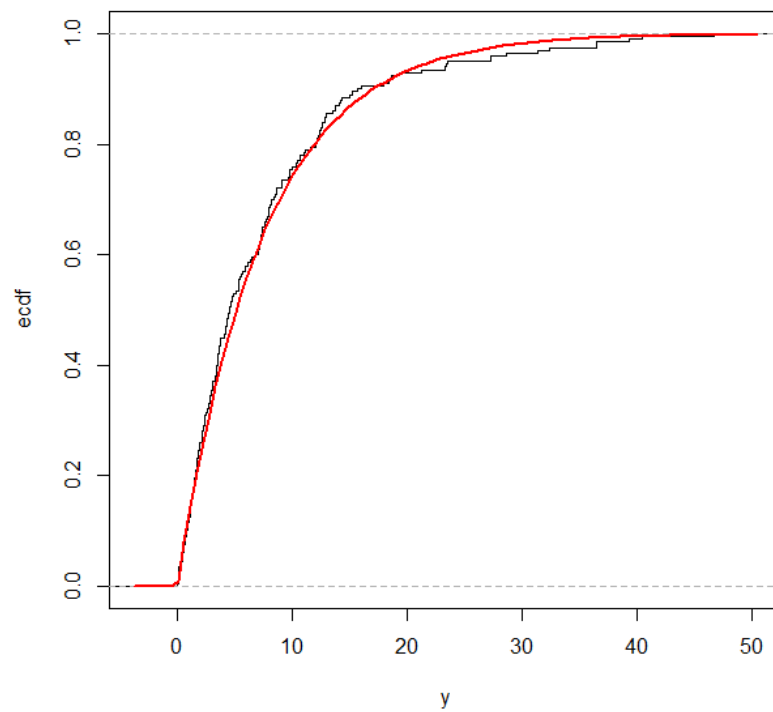
Sample skewness =2.215232

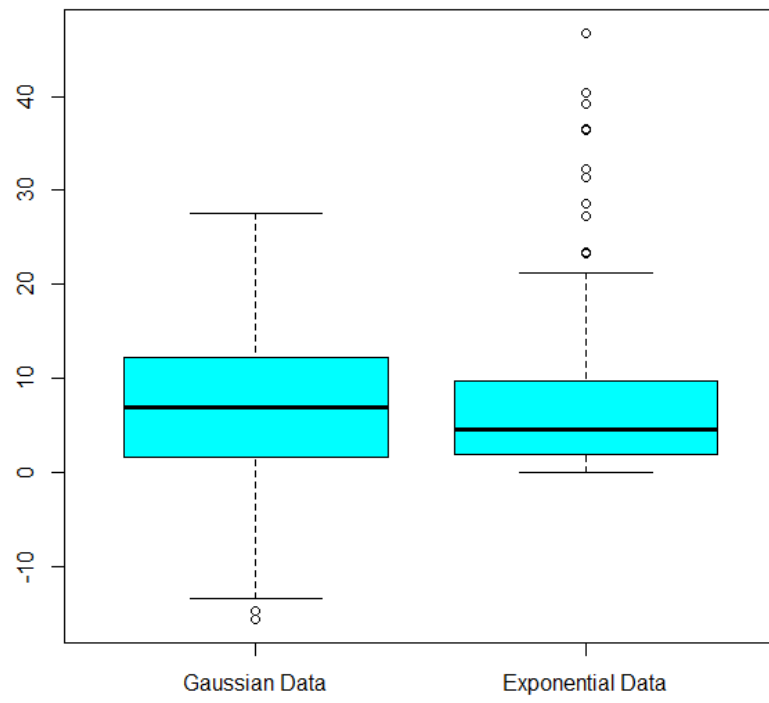
Sample kurtosis = 8.624793

Relative Frequency Histogram of Data



Empirical and Exponential C.D.F.'s





Problem 3: The first five numbers in your Gamma data set are:

1.05	2.15	2.67	3.97	3.97
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Sample mean = 22.34425

Sample standard deviation = 12.56108

The five number summary is:

1.05	13.065	20.125	29.68	64.36
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Sample median = 20.125

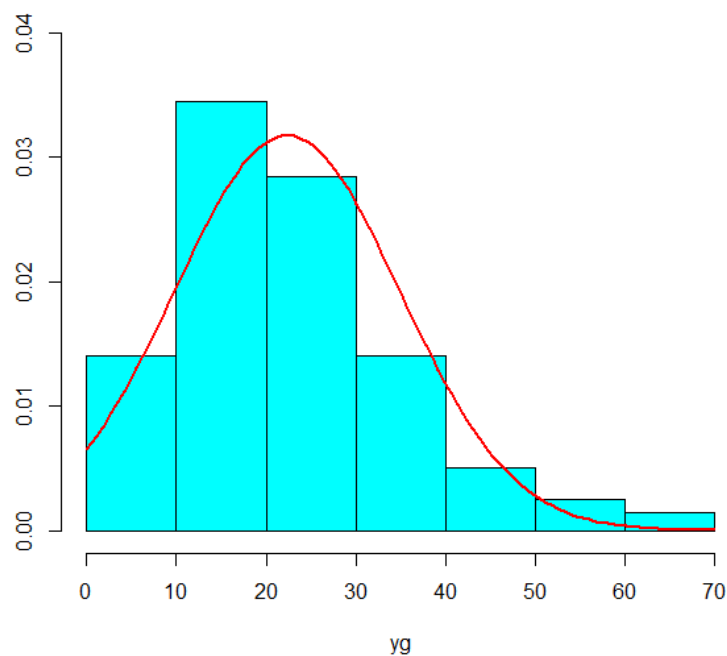
Range = 64.36-1.05=63.31

IQR = 29.68-13.065=16.615

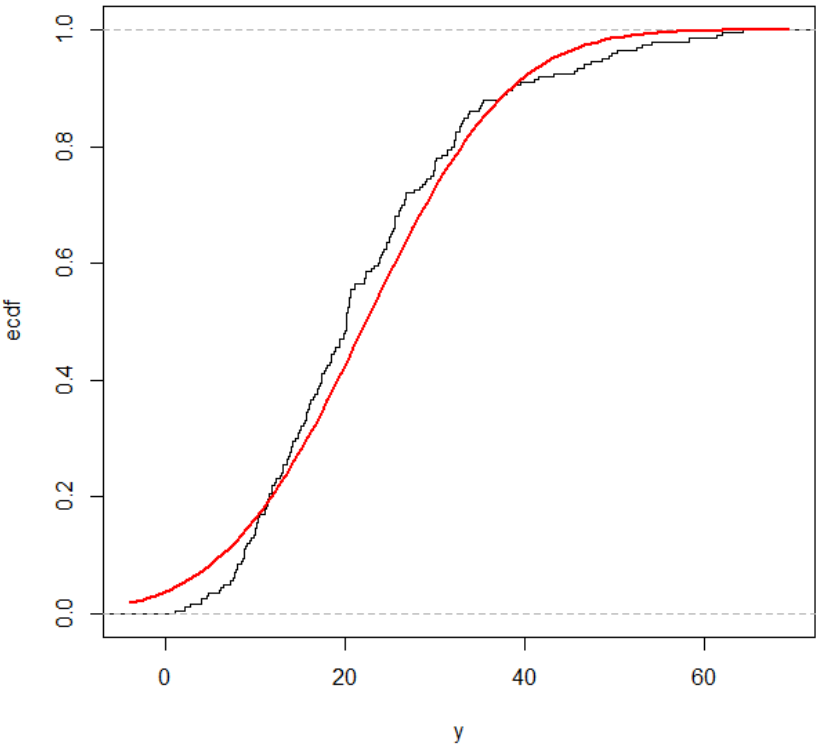
Sample skewness = 1.000275

Sample kurtosis = 3.916763

Relative Frequency Histogram of Data



Empirical and Gaussian C.D.F.'s



Based on the numerical summaries and the graphical summaries for the Gamma data discuss how well the Gaussian model fits these data. Your answer should be written in complete sentences.

For Gaussian data we expect the mean and median to be equal. In Gamma data, the mean and median are very close, so the Gaussian data fits these data very well.

Problem 4:

Alpha =6.84365

Beta =7.39855

The first five pairs of numbers in your bivariate data set are:

x	y
3.9	31.0
11.7	95.3
4.1	22.5
18.7	127.3
7.8	60.8

Sample Correlation =0.9343387

