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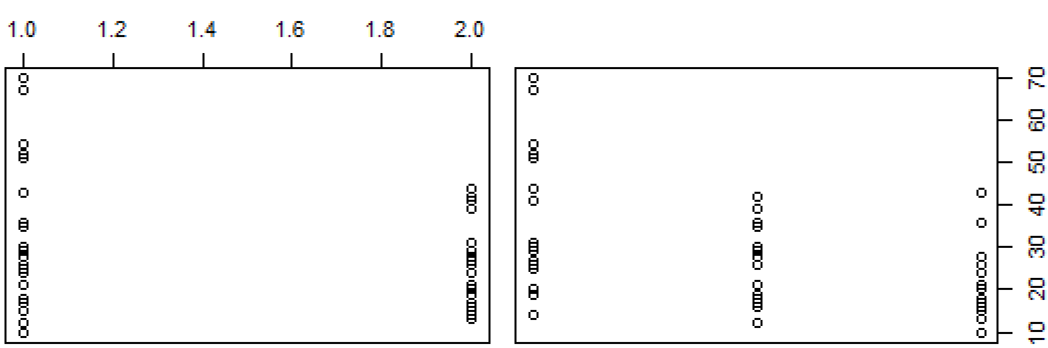
Assignment 12

When it comes to statistical analysis, it is sometimes better to use the poisson model or quasi-poisson model. Poisson model can be used when the variance of the data set is equal to the mean and the quasi poisson model can be used when the variance is greater than the mean

```
model2 <- glm(Students ~ Days, quasipoisson) summary(model2) Call: glm(formula = Stud
(Intercept)  1.990235   0.074789   26.61   <2e-16 ***
Days        -0.017463   0.001539  -11.35   <2e-16 ***
---
Signif. codes:  0 â..***â.. 0.001 â..**â.. 0.01 â..*â.. 0.05 â...â.. 0.1 â.. â.. 1

(Dispersion parameter for quasipoisson family taken to be 0.7939441)

    Null deviance: 215.36  on 108  degrees of freedom
    Residual deviance: 101.17  on 107  degrees of freedom
    AIC: NA

Number of Fisher Scoring iterations: 5

model2$coefficients
(Intercept)       Days
 1.99023497 -0.01746317

timeaxis <-seq 0="" 150="" 1="" pre="">
timeaxis <-seq (0,150,0.1)
```

As we can see in the quasi-poisson model shown above, the values are much more different than the equivalent poisson values.

I would argue that in this case the quasi poisson model is a greater representation of the warpbreaks data set simply because of the reason that the distance between points varies alot and consequently the variance is greater than the mean



If you look at two example plots of the data you can see just by looking at it that it is very unlikely that the variance is equal to the mean, so the quasi poisson link function is a better representation of the data than the quasi-poisson function, just due to the nature of the data