**Lesson 5**

**In group: Can you try to use the indicator variable for the housing? What will you get?**

summary(lm(mort~so2+dens\*housindf))

The interaction is not more significant and the density will not be significant. The interaction becomes minus, not significant so in this case we can not interpret it.

**In group: Can you transform now just the so2 covariates keeping the nonw and educ in a standard way? What will you get?**

summary(lm(mort~ poly(so2,2) +educ+nonw))

The so2 for poly 1 will be significant and the coref is higher 125

**In group: Can you now perform the diagnostic check with a model that includes so2, educ, nonw and poor? Put the residualized standardized plot that you are obtaining with this model with the old one.**

summary(lm(mort~so2+educ+nonw+poor))

fit2 <- lm(mort~so2+educ+nonw+poor)

sres2 <- studres(fit2)

res2 <- resid(fit2)

str(fit2)

fitt2 <- fit2$fitted.values

plot(fitt2, res2, ylab="Residuals", xlab="Fitted Values")

par(mfrow=c(1,2))

plot(fitt, sres, ylab="Studentized Residuals", xlab="Fitted Values")

plot(fitt2, sres2, ylab="Studentized Residuals", xlab="Fitted Values")