a) YuFDS <- read.csv(file.choose(), header=TRUE)

attach(YuFDS)

cor(cbind(HDI,LE2013,MEANYRSCH,EYRSCH,GNI2013,HDI2012))

HDI LE2013 MEANYRSCH EYRSCH GNI2013 HDI2012

HDI 1.0000000 0.9014085 0.8976834 0.8950789 0.2583931 0.9998629

LE2013 0.9014085 1.0000000 0.7287353 0.7556001 0.2476041 0.9016022

MEANYRSCH 0.8976834 0.7287353 1.0000000 0.7997989 0.2359952 0.8971927

EYRSCH 0.8950789 0.7556001 0.7997989 1.0000000 0.1935497 0.8945572

GNI2013 0.2583931 0.2476041 0.2359952 0.1935497 1.0000000 0.2594473

HDI2012 0.9998629 0.9016022 0.8971927 0.8945572 0.2594473 1.0000000

varb = data.frame(LE2013,MEANYRSCH,EYRSCH,GNI2013,HDI2012, HDI)

pairs(varb,upper.panel=NULL)

model1 =lm(HDI ~ LE2013 + MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

summary(model1)

Call:

lm(formula = HDI ~ LE2013 + MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

Residuals:

Min 1Q Median 3Q Max

-0.0267570 -0.0008281 0.0000985 0.0011206 0.0050706

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.812e-03 2.135e-03 1.317 0.190

LE2013 3.281e-05 6.311e-05 0.520 0.604

MEANYRSCH 1.800e-04 1.768e-04 1.018 0.310

EYRSCH 1.916e-04 1.659e-04 1.155 0.250

GNI2013 -7.769e-09 1.763e-08 -0.441 0.660

HDI2012 9.898e-01 8.006e-03 123.641 <2e-16 \*\*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002595 on 181 degrees of freedom

Multiple R-squared: 0.9997, Adjusted R-squared: 0.9997

F-statistic: 1.346e+05 on 5 and 181 DF, p-value: < 2.2e-16

> model2 =lm(HDI ~ MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

> summary(model2)

Call:

lm(formula = HDI ~ MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

Residuals:

Min 1Q Median 3Q Max

-0.0268061 -0.0008438 0.0000876 0.0011594 0.0051917

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 3.680e-03 1.329e-03 2.769 0.0062 \*\*

MEANYRSCH 1.298e-04 1.479e-04 0.878 0.3812

EYRSCH 1.579e-04 1.524e-04 1.036 0.3017

GNI2013 -1.156e-08 1.601e-08 -0.722 0.4713

HDI2012 9.933e-01 4.551e-03 218.253 <2e-16 \*\*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002589 on 182 degrees of freedom

Multiple R-squared: 0.9997, Adjusted R-squared: 0.9997

F-statistic: 1.689e+05 on 4 and 182 DF, p-value: < 2.2e-16

//cor(HDI,LE2013)

//[1] 0.9014085

model2 =lm(HDI ~ MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

model3 =lm(LE2013 ~ MEANYRSCH + EYRSCH + GNI2013 + HDI2012)

e2 =residuals(model2)

e3 =residuals(model3)

cor(e3,e2)

[1] 0.03861117

plot(e3,e2)



plot(LE2013,HDI)

