**Programação**

**Análise de regressão**

# Multiple Linear Regression Example

fit <- lm(y ~ RMBH$IPM + RMBH$SANEAM + RMBH$IDHM + RMBH$IVS + RMBH$IBEU + RMBH$RENDA + RMBH$IVC, data=RMBH)

summary(fit) # show results

# Other useful functions

coefficients(fit) # model coefficients

confint(fit, level=0.95) # CIs for model parameters

fitted(fit) # predicted values

residuals(fit) # residuals

anova(fit) # anova table

vcov(fit) # covariance matrix for model parameters

influence(fit) # regression diagnostics

# diagnostic plots

layout(matrix(c(1,2,3,4),2,2)) # optional 4 graphs/page

plot(fit)

**Análise de cluster**

# Ward Hierarchical Clustering

d <- dist(RMBH,

 method = "euclidean") # distance matrix

fit <- hclust(d, method="ward")

plot(fit) # display dendogram

groups <- cutree(fit, k=5) # cut tree into 5 clusters

# draw dendogram with red borders around the 5 clusters

rect.hclust(fit, k=5, border="red")

# K-Means Clustering with 5 clusters

fit <- kmeans(RMBH, 5)