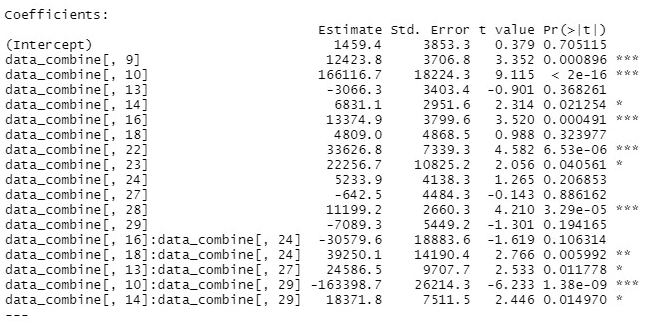
1. *Linear model*

Volume = 1459.4 + 12423.8\* Types+ 166116.7\*DestinationAkademiskahus-3066.3 \* DestinationE-huset+ 6831.1\* DestinationFysik +13374.9\*DestinationMaskin + 4809\* DestinationSB3+ 33626.8\* CommodityClothes +22256.7\* CommodityDailynecessities + 5233.9\* CommodityElectronicproduct -642.5\* CommodityITinfrastructure+ 11199.2 \* CommodityLaboratoryequipment -7089.3\* CommodityMachinary -30579.6\* (DestinationMaskin\*CommodityElectronicProduct )+39250.1\*(DestinationSB3\*CommodtyElectronicProduct)+ 24586.5\* (DestinationE-huset\*CommodityITinfrastructure) -163398.7\* (DestinationAkademiskahus\*CommodityMachinary)+ 18371.8\*(DestinationFysik\*CommodityMachinary)

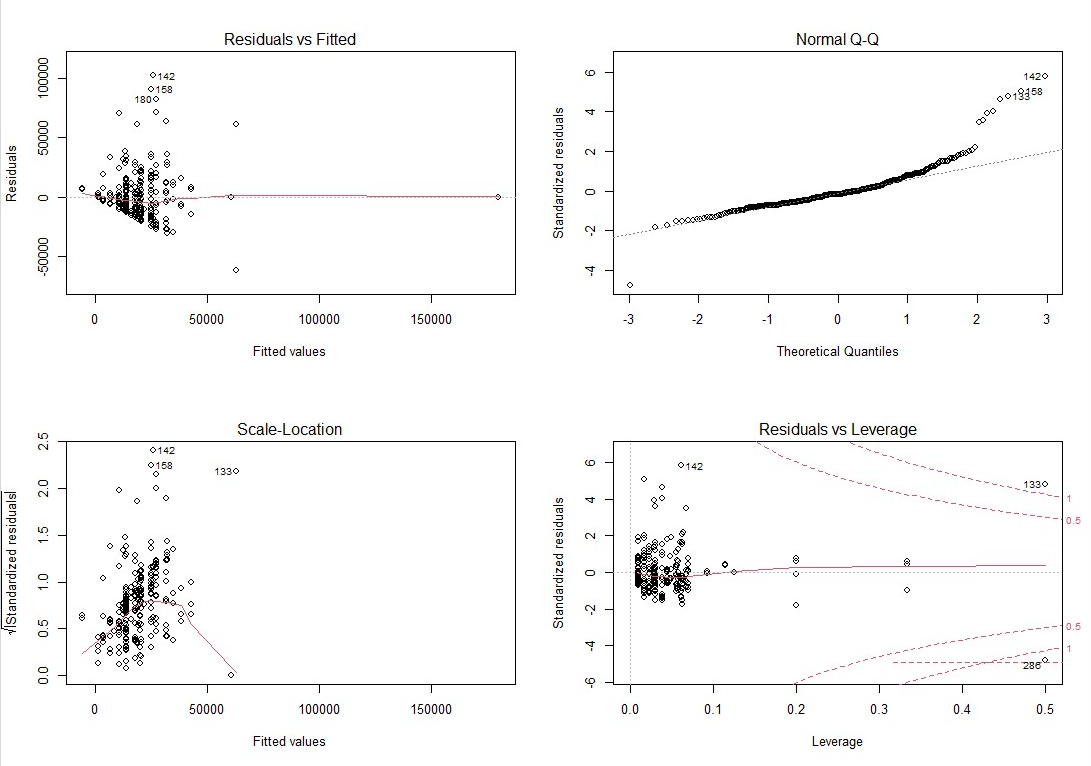
* 1. Linear Model analysis



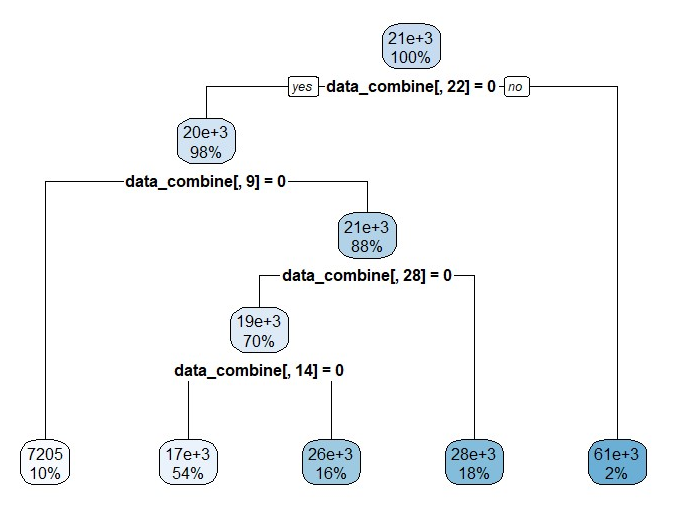
Residual standard error: 18130 on 333 degrees of freedom

Multiple R-squared: 0.3784, Adjusted R-squared: 0.3467

F-statistic: 11.93 on 17 and 333 DF, p-value: < 2.2e-16

1.2 Residuals analysis

1. *Decision Tree Regression*

* data\_combine[,22] – commodity clothes
* data\_combine[,9] – types
* data\_combine[,28] – commodity laboratory equipment
* data\_combine[,14] – destination Fysik

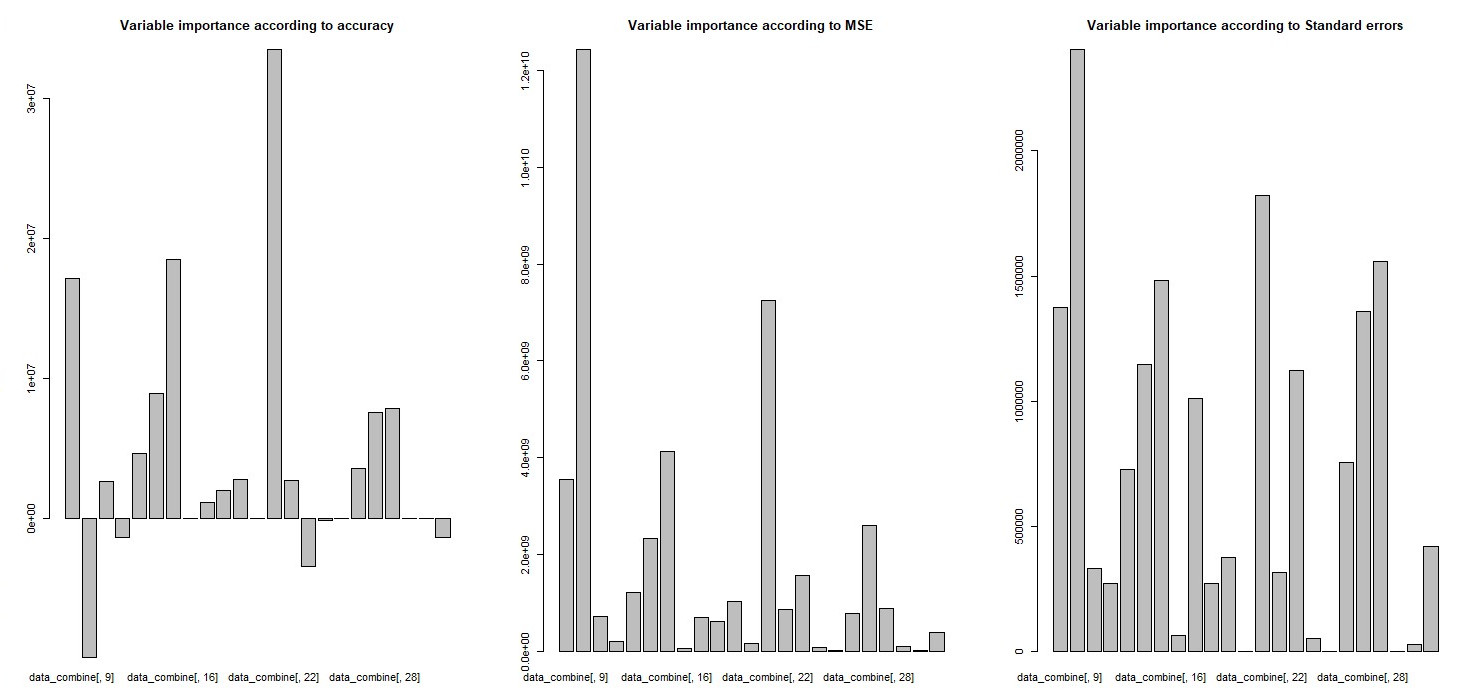
* 1. Analysis of Decision Tree Regression

10-fold cross validation :

NMSE for training set: 0.990945557136904

NMSE for validation set: 0.970835486064974

Conclusion: Normalized mean square error indicates the model is underfitted.

1. Random Forest
   1. Analysis of Decision Tree Regression

NMSE for training set: 0.979605058028845

NMSE for validation set: 0.96465612611189

Conclusion: Normalized mean square error indicates the model is underfitted.

1. GLM model with Gamma family
2. 