Stats Computing Assignment 1

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Contents

Practical 1

```
# ========================
# Clear the environment
# ========================

rm(list = ls(all= TRUE))

# ========================
# Load Packages
# ========================

library(knitr)
```

1. “‘ r Rows.with.NA = airquality[apply(airquality,1, function(x) any(is.na(x))),] “‘
2. “‘ r airquality.summary = data.frame(variable = c("Ozone","Temperature"), Mean = c(mean(airquality$Ozone, na.rm = TRUE), mean(airquality$Temp,na.rm = TRUE)) |> signif(3), sd = c(sd(airquality$Ozone, na.rm = TRUE), sd(airquality$Temp,na.rm = TRUE)) |> signif(3), min = c(min(airquality$Ozone, na.rm = TRUE), min(airquality$Temp,na.rm = TRUE)) |> signif(3), max = c(max(airquality$Ozone, na.rm = TRUE), max(airquality$Temp,na.rm = TRUE)) |> signif(3))

   kable(airquality.summary,caption = "Summary statistics for Ozone and Temperature") “‘

   Table: Summary statistics for Ozone and Temperature

   |variable | Mean| sd| min| max| |:————|—-:|—:|—:|—:| |Ozone | 42.1| 33.00| 1| 168| |Temperature | 77.9| 9.47| 56| 97|
3. “‘ r Y = cars$speed X = cbind(1, cars$dist) |> as.matrix() colnames(X) = c("Intercept","Distance")

   beta.vec = solve(t(X)

   colnames(beta.vec) = "estimate"

   beta.vec |> signif(3) |> knitr::kable() “‘

   | | estimate| |:———|———:| |Intercept | 8.280| |Distance | 0.166|
4. “‘ r beta.mat = lm(speed dist, data = cars) |> coef() |> signif(3)

   beta.mat |> knitr::kable() “‘

   | | x| |:————|—-:| |(Intercept) | 8.280| |dist | 0.166|