> set.seed(pi)

> r <- rnorm(2754, 0, 1)

> income <- exp(r)

> quant <- quantile(income, c(.1, .35, .75, .98))

> quant

10% 35% 75% 98%

0.2826170 0.6745582 1.9345836 7.8610536

> income.level <- rep(NA, 2754)

> income.level[income <= quant[1]] <- "VL"

> income.level[income > quant[1] & income <= quant[2]] <- "L"

> income.level[income > quant[2] & income <= quant[3]] <- "M"

> income.level[income > quant[3] & income <= quant[4]] <- "H"

> income.level[income > quant[4]] <- "VH"

> factor\_income.level <- factor(income.level, ordered = TRUE, levels <- c("VL", "L", "M", "H", "VH"))

> levels(factor\_income.level) <- c("Very Low", "Low", "Middle", "High", "Very High")

> summary(factor\_income.level)

Very Low Low Middle High Very High

276 688 1101 633 56

> income.high <- income[substr(factor\_income.level, 1, 2754) %in% c("Middle", "High", "Very High")]

> hist(income.high, breaks = 20)

> mean(income.high)

[1] 2.322121

> income.high\_VH <- income[substr(factor\_income.level, 1, 2754) %in% c("Very High")]

> income.high\_H <- income[substr(factor\_income.level, 1, 2754) %in% c("High")]

> mean(income.high\_VH) - mean(income.high\_H)

[1] 7.975506

> industry <- sample(c("Manufacture", "Service", "IT"), 100, replace = TRUE, prob = c(.3, .5, .2))

> stock <- rep(NA, 100)

> stock[industry == "Manufacture"] <- rnorm(sum(industry == "Manufacture"), 3, 2)

> stock[industry == "Service"] <- rnorm(sum(industry == "Service"), 2, 4)

> stock[industry == "IT"] <- rnorm(sum(industry == "IT"), 8, 8)

> factor.industry <- factor(industry)

> summary(factor.industry)

IT Manufacture Service

23 28 49

> industry.manufacture <- stock[substr(industry, 1, 100) %in% c("Manufacture")]

> industry.service <- stock[substr(industry, 1, 100) %in% c("Service")]

> industry.IT <- stock[substr(industry, 1, 100) %in% c("IT")]

> mean(industry.manufacture)

[1] 2.437437

> sd(industry.manufacture)

[1] 2.190272

> mean(industry.service)

[1] 2.014805

> sd(industry.service)

[1] 4.03468

> mean(industry.IT)

[1] 5.477804

> sd(industry.IT)

[1] 7.459002