BE601 - DATA ANALYTICS I

Seminar 1

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#E1

stock <- c(0.04,0.143,0.19,-0.147,-0.265,0.361,0.238)  
bill <- c(0.065,0.044,0.038,0.069,0.08,0.058,0.046)  
mean\_stock <- mean(stock)\*100  
mean\_bill = mean(bill)\*100  
sd\_stock <- sd(stock)\*100  
sd\_bill <- sd(bill)\*100  
mean\_stock

## [1] 8

mean\_bill

## [1] 5.714286

sd\_stock

## [1] 22.06611

sd\_bill

## [1] 1.521434

coeff\_sd\_stock <- sd\_stock/mean\_stock  
coeff\_sd\_bill <- sd\_bill/mean\_bill  
coeff\_sd\_stock

## [1] 2.758264

coeff\_sd\_bill

## [1] 0.266251

#E2

a <- c(1,2,3,4,5,6,7,8)  
b <- c(1,1,1,1,8,8,8,8)  
c <- c(1,1,4,4,5,5,8,8)  
d <- c(-6,-3,0,3,6,9,12,15)  
df <- data.frame(a = c(1,2,3,4,5,6,7,8),  
 b = c(1,1,1,1,8,8,8,8),  
 c = c(1,1,4,4,5,5,8,8),  
 d = c(-6,-3,0,3,6,9,12,15))  
sapply(df, var)

## a b c d   
## 6.000000 14.000000 7.142857 54.000000

#E3

#E4 2.52 Newbold

mean <- 686  
sd <- 66  
k1\_5 <- 100\*(1-1/1.5^2)  
k2 <- 100\*(1-1/2^2)  
k2\_5 <- 100\*(1-1/2.5^2)  
k3 <- 100\*(1-1/3^2)  
est <- c(k1\_5,k2,k2\_5,k3)  
est

## [1] 55.55556 75.00000 84.00000 88.88889

interval\_min <- mean - 2\*sd  
interval\_max <- mean + 2\*sd  
interval\_min

## [1] 554

interval\_max

## [1] 818

#E5

s1 <- c(84,80,72,72,76,77,75,69,72,62,78,71,70,76,66,77,63,72,68,70)  
s2 <- c(70,73,77,76,74,70,67,61,70,70,75,66,75,76,71,67,67,67,70,78,73,66,65,79,66,71,78,72,82,67)  
fivenum(s1)

## [1] 62.0 69.5 72.0 76.5 84.0

fivenum(s2)

## [1] 61.0 67.0 70.5 75.0 82.0

boxplot(s1,s2,  
 main = "Weight of persons of age 75 by 2 datasets",  
 ylab = "Age",  
 at = c(1,2),  
 names = c("Dataset 1", "Dataset 2")  
 )

