STA 570 - Statistical Methods I HW1

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##Problem 3: Problem 1 Population Data

#DataFrame  
PolutionRatios <- data.frame(Ratio = c(76.50, 6.03, 3.51, 9.96, 4.24, 7.74, 9.54, 41.70, 1.84, 2.5, 1.54, 0.27, 0.61, 0.54, 0.14, 0.63, 0.23, 0.56, 0.48, 0.16, 0.18 ), Type = c( rep('Terrestrial',11), rep('Aquatic',10) ) )

#filter by Type  
PopTerrestrial <- PolutionRatios %>% filter(Type == "Terrestrial")  
PopAquatic <- PolutionRatios %>% filter(Type == "Aquatic")

#Mean and Median by Type  
mean(PopTerrestrial$Ratio)

## [1] **15.00909**

median(PopTerrestrial$Ratio)

## [1] **6.03**

mean(PopAquatic$Ratio)

## [1] **0.38**

median(PopAquatic$Ratio)

## [1] **0.375**

##Problem 4: Problem 2 Hotel Data

Hotels <- data.frame(Price = c(175, 180, 120, 150, 120, 125, 50, 50, 49, 45, 36, 45, 50, 50, 40), Type = c( rep('Luxury',6), rep('Budget', 9) ) )

#filter by Type  
LuxuryHotel <- Hotels %>% filter(Type == "Luxury")  
BudgetHotel <- Hotels %>% filter(Type == "Budget")

#Mean and Standard Deviation by Type  
mean(LuxuryHotel$Price)

## [1] **145**

sd(LuxuryHotel$Price)

## [1] **27.5681**

mean(BudgetHotel$Price)

## [1] 46.11111

sd(BudgetHotel$Price)

## [1] 5.134307

##Problem 5: Histograms for Problem 2 & 4 Data

boxplot(Price~Type, data=Hotels, main="Prices of Luxury and Budget Hotels", col="Magenta", border="Black")

