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Assignment 10

1. Answers
   1. The resulting odds ratio depicts that the ratio of developing myocardial infraction for males drinking caffeinated coffee is 2.512 times more than for males not drinking caffeinated coffee.  
      R Code:  
      data <- read\_dta(“coffee.dta”)  
      model <- glm(mi~coffee, data = data, family = binomial(link = “logit”))  
      summary(model)  
      exp(model$coefficients[2])  
        
      > exp(model$coefficients[2])  
       coffee  
      2.512051
   2. The resulting odds ratio depicts that the ratio of developing myocardial infraction for males drinking caffeinated coffee is 2.464 times more than for males not drinking caffeinated coffee if they smoke, and is 1.956 times more likely than for males not drinking caffeinated coffee if they do not smoke.   
      R code:  
      data\_smoker = filter(data, smoke == 1)  
      data\_non\_smoker = filter(data, smoke==0)  
      model <- glm(mi~coffee, data = data\_smoker, family = binomial(link = “logit”))  
      exp(model$coefficients[2])  
        
      > exp(model$coefficients[2])  
       coffee  
      2.464292  
        
      > exp(model$coefficients[2])  
       coffee  
      1.955542
   3. The resulting odds ration depicts that the ratio of developing myocardial infractions for males drinking caffeinated coffee is 2.195 times more than for males not drinking caffeinated coffee and considering smoking as a variable.  
      R code:  
      model <- glm(mi~coffee+smoke, data = data, family = binomial(link = “logit”))  
      summary(model)  
      exp(model$coefficients[2])  
        
      > exp(model$coefficients[2])  
       coffee  
      2.195462
   4. At a 0.05 level of significance, the p-value for coffee consumption is . It can be concluded that myocardial infraction varies by coffee consumption because < 0.05.  
      R code:  
      model <- glm(mi~coffee, data = data, family = binomial(link = “logit”))  
      summary(model)
   5. At 95% confidence interval, the p-value for coffee consumption while adjusting for if smoking is . It can be concluded that myocardial infraction varies by coffee consumption because < 0.05.  
      R code:  
      model <- glm(mi~coffee+smoke, data = data, family = binomial(link = “logit”))  
      summary(model)