1. Use the given link below and locate the bank marketing dataset. Data Set Link

Perform the below operations:

1. Is there any association between Job and default?
2. ggplot(bankSample, aes(default, y)) + geom\_jitter()
3. Is there any significant difference in duration of last call between people having housing loan or not?

as.numeric(as.factor(bank\_additional$y)) and BankAdditionalNum$Housing + BankAdditionalNum$Loan

1. Is there any association between consumer price index and consumer?

Consumer Price Index - A statistical estimate constructed using the prices of a sample of representative items whose prices are collected periodically.

Consumer Confidence Index - An indicator of degree of optimism on the state of the economy, expressed through consumer activity of savings and spending

1. Is the employment variation rate consistent across job types?

Employment Variation Rate - When an employee undertakes approved specific duties and responsibilities in addition to their normal work, or relieves in a higher level position, or is seconded to a temporary vacancy in another work unit, or increases/decreases their hours of work on either a temporary or permanent basis

1. Is the employment variation rate same across education?

no

1. Which group is more confident?
2. BankAdditionalNum <- data.frame(as.numeric(as.factor(bank\_additional$age)),
3. as.numeric(as.factor(bank\_additional$job)),
4. as.numeric(as.factor(bank\_additional$marital)),
5. as.numeric(as.factor(bank\_additional$education)),
6. as.numeric(as.factor(bank\_additional$housing)),
7. as.numeric(as.factor(bank\_additional$loan)))
8. *# Rename the columns*
9. colnames(BankAdditionalNum) <- c("Age", "Job", "Marital", "Education", "Housing", "Loan")
10. *# Reduce the amount of dataset records for legibility within clusters*
11. BankAdditionalNum2 <- BankAdditionalNum[sample(nrow(BankAdditionalNum),500),]
12. *# Kmeans clustering to create 5 clusters*
13. set.seed(12345)
14. BankAdditionalNum\_k5 <- kmeans(BankAdditionalNum2, centers=5)
16. ## Partition Size of the 5 Clusters:
17. ## The amount of respondents in Cluster 1 = 92
18. ## The amount of respondents in Cluster 2 = 160
19. ## The amount of respondents in Cluster 3 = 8
20. ## The amount of respondents in Cluster 4 = 111
21. ## The amount of respondents in Cluster 5 = 129