

JATIN DHALL

20BCE0832

## DATA VISUALIZATION LAB FAT

### CODE

```
#  
# This is a Shiny web application. You can run the application by clicking  
# the 'Run App' button above.  
#  
# Find out more about building applications with Shiny here:  
#  
#   http://shiny.rstudio.com/  
#  
  
#code by JATIN DHALL  
#20BCE0832  
library(shiny)  
library(shinydashboard)  
library(DT)  
library(dplyr)  
library(ggplot2)  
library(broom)  
library(lmtest)  
library(ggplot2)  
library("tm")  
library("SnowballC")  
library("wordcloud")  
library("RColorBrewer")  
  
#Importing the dataset into the code  
df <- read.csv("C:/Users/Jatin Dhall/Desktop/Desktop File/VIT/VIT/SEM 3/DATA  
VIZ/LAB/LABFAT/course_data.csv")  
head(df)  
#Creating dataframe for Q1(Table)  
table_cols <- data.frame(  
  course_title = df$course_title,  
  course_rating = df$course_rating,  
  course_students_enrolled = df$course_students_enrolled)  
head(table_cols)  
  
#Q2]  
#Finding the organisation names and their counts  
org_courses_count = count(df, vars = course_organization)
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org_names = org_courses_count$vars
org_count = org_courses_count$n
org_names
org_count

# Define UI for application that draws a histogram
ui <- fluidPage(
  dashboardPage(
    dashboardHeader(title="Jatin Dhall 20BCE0832 DA"),
    dashboardSidebar(disable = TRUE),
    dashboardBody(
      fluidRow(box(
        title = "Table(Jatin Dhall)",
        solidHeader = TRUE,
        collapsible = TRUE,
        DT::dataTableOutput("table"),
        width = 12
      )),
      fluidRow(
        box(
          title = "Bar chart(Jatin Dhall)",
          solidHeader = TRUE,
          collapsible = TRUE,
          plotOutput("bar",height = 500),
          width = 12
        )
      ),
      fluidRow(
        box(
          title = "Linear Regression Plot(Jatin Dhall)",
          solidHeader = TRUE,
          collapsible = TRUE,
          plotOutput("regplot"),
          width = 12
        )
      ),
      fluidRow(
        box(
          title = "Tag cloud of the inferences(Jatin Dhall)",
          solidHeader = TRUE,
          collapsible = TRUE,
          plotOutput("inferences")
        )
      )
    )
  )
)

```

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)

# Define server logic required to draw a histogram
server <- function(input, output) {

  output$table = DT::renderDataTable({
    table_cols
  })

  output$bar <- renderPlot({
    barplot(org_count, names.arg=org_names, xlab="", ylab="No. of courses
offered", col="blue",
            main="No. of courses vs Organisation Bar Chart", las=2)
  })

  y <- df$course_rating
  x <- df$course_students_enrolled
  fit <- lm(y ~ x)
  model <- augment(fit)
  output$regplot <- renderPlot({
    ggplot(data = df, aes(x = x, y = y)) +
      geom_point(color='blue') +
      geom_line(color='red', data = model, aes(x=x, y=y))
  })

  output$inferences <- renderPlot({
    filePath <- "C:/Users/Jatin Dhall/Desktop/Desktop File/VIT/VIT/SEM
3/DATA VIZ/LAB/LABFAT/Inference.txt.txt"
    text <- readLines(filePath)

    # Load the data as a corpus
    docs <- Corpus(VectorSource(text))

    inspect(docs)

    toSpace <- content_transformer(function (x , pattern ) gsub(pattern, "
", x))
    docs <- tm_map(docs, toSpace, "/")
    docs <- tm_map(docs, toSpace, "@")
    docs <- tm_map(docs, toSpace, "\\|")

    # Convert the text to lower case
    docs <- tm_map(docs, content_transformer(tolower))
    # Remove numbers
    docs <- tm_map(docs, removeNumbers)
    # Remove english common stopwords
    docs <- tm_map(docs, removeWords, stopwords("english"))
    # Remove punctuations
    docs <- tm_map(docs, removePunctuation)

```

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# Eliminate extra white spaces
docs <- tm_map(docs, stripWhitespace)
# Text stemming
# docs <- tm_map(docs, stemDocument)

dtm <- TermDocumentMatrix(docs)
m <- as.matrix(dtm)
v <- sort(rowSums(m),decreasing=TRUE)
d <- data.frame(word = names(v),freq=v)
head(d, 10)

set.seed(1234)
wordcloud(words = d$word, freq = d$freq, min.freq = 1,
          max.words=200, random.order=FALSE, rot.per=0.35,
          main = "Tag Cloud with Inference",colors=brewer.pal(8,
                                                                "Dark2"))
)

})

}

# Run the application
shinyApp(ui = ui, server = server)

```

## OUTPUTS OF DASHBOARD

C:/Users/Jatin Dhall/Desktop/Desktop File/VIT/VIT/SEM 3/DATA VIZ/LAB/LABFAT - Shiny

http://127.0.0.1:6059 Open in Browser Publish

Jatin Dhall

Table(Jatin Dhall)

Show 10 entries Search:

	course_title	course_rating	course_students_enrolled
1	A Crash Course in Causality: Inferring Causal Effects from Observational Data	4.7	17k
2	A Crash Course in Data Science	4.5	130k
3	A Law Student's Toolkit	4.7	91k
4	A Life of Happiness and Fulfillment	4.8	320k
5	ADHD: Everyday Strategies for Elementary Students	4.7	39k
6	AI For Everyone	4.8	350k
7	AI For Medical Treatment	4.8	2.4k
8	AI Foundations for Everyone	4.7	61k
9	AI for Medical Diagnosis	4.7	12k

A scatter plot showing the relationship between x and y. The x-axis ranges from 1 to 97, and the y-axis ranges from 4.2 to 4.8. Blue dots represent data points. Red vertical lines connect points that share the same x-value, indicating multiple observations for that x-value. The plot shows a general upward trend, with y values increasing as x increases, though with significant local variability.

Tag cloud of the inferences(Jatin Dhall)



Q3]

INFERENCE

University of Penisvania offers the most number of courses.  
There is no linear regression between number of students  
enrolled and course ratings