## **DATA VISUALIZATION LAB FAT**

### CODE

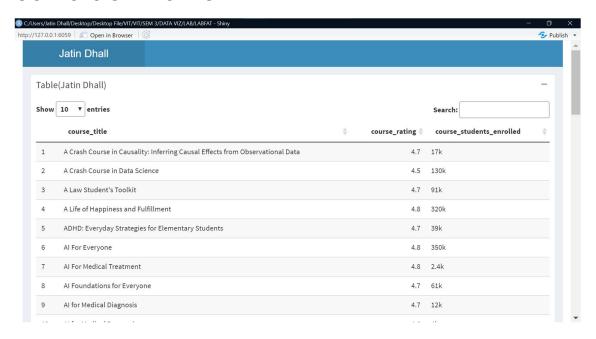
```
# This is a Shiny web application. You can run the application by clicking
# the 'Run App' button above.
# Find out more about building applications with Shiny here:
#code by JATIN DHALL
#20BCE0832
library(shiny)
library(shinydashboard)
library(DT)
library(dplyr)
library(ggplot2)
library(broom)
library(lmtest)
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</pre>
VIZ/LAB/LABFAT/coursea data.csv")
head(df)
#Creating dataframe for Q1(Table)
table cols <- data.frame(</pre>
    course_title = df$course_title,
    course_rating = df$course_rating,
    course_students_enrolled = df$course_students_enrolled)
head(table_cols)
#021
#Finding the organisation names and their counts
org courses count = count(df, vars = course organization)
```

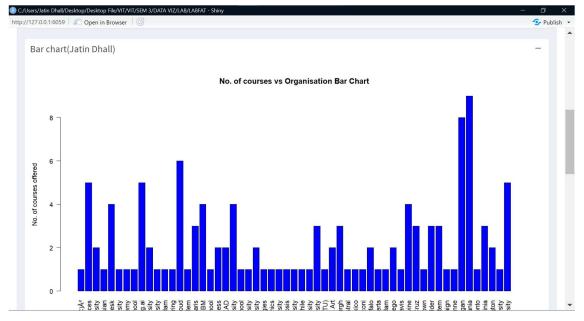
```
org_names = org_courses_count$vars
org count = org courses count$n
org names
org_count
# Define UI for application that draws a histogram
ui <- fluidPage(
    dashboardPage(
        dashboardHeader(title="Jatin Dhall 20BCE0832 DA"),
        dashboardSidebar(disable = TRUE),
        dashboardBody(
            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")
```

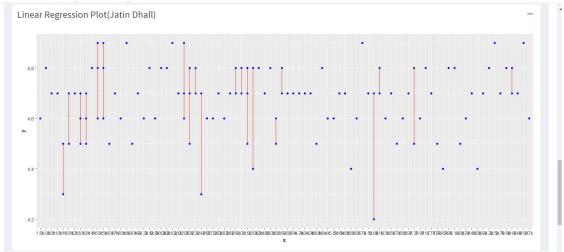
```
# Define server logic required to draw a histogram
server <- function(input, output) {</pre>
    output$table = DT::renderDataTable({
        table cols
    })
    output$bar <- renderPlot({</pre>
        barplot(org_count,names.arg=org_names,xlab="",ylab="No. of courses
offered", col="blue",
                 main="No. of courses vs Organisation Bar Chart",las=2)
    y <- df$course_rating</pre>
    x <- df$course students enrolled
    fit <-lm(y \sim x)
    model <- augment(fit)</pre>
    output$regplot <- renderPlot({</pre>
        ggplot(data = df, aes(x = x, y = y)) +
             geom_point(color='blue') +
             geom_line(color='red',data = model, aes(x=x, y=y))
    })
    output$inferences <- renderPlot({</pre>
        filePath <- "C:/Users/Jatin Dhall/Desktop/Desktop File/VIT/VIT/SEM</pre>
3/DATA VIZ/LAB/LABFAT/Inference.txt.txt"
        text <- readLines(filePath)</pre>
        # Load the data as a corpus
        docs <- Corpus(VectorSource(text))</pre>
        inspect(docs)
        toSpace <- content_transformer(function (x , pattern ) gsub(pattern, '
", x))
        docs <- tm_map(docs, toSpace, "/")</pre>
        docs <- tm_map(docs, toSpace, "@")</pre>
        docs <- tm_map(docs, toSpace, "\\|")</pre>
        docs <- tm_map(docs, content_transformer(tolower))</pre>
        # Remove numbers
        docs <- tm_map(docs, removeNumbers)</pre>
        # Remove english common stopwords
        docs <- tm map(docs, removeWords, stopwords("english"))</pre>
        # Remove punctuations
        docs <- tm_map(docs, removePunctuation)</pre>
```

```
# Eliminate extra white spaces
        docs <- tm_map(docs, stripWhitespace)</pre>
        # docs <- tm_map(docs, stemDocument)</pre>
        dtm <- TermDocumentMatrix(docs)</pre>
        m <- as.matrix(dtm)</pre>
        v <- sort(rowSums(m),decreasing=TRUE)</pre>
        d <- data.frame(word = names(v),freq=v)</pre>
        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**









# Q3]

# **INFERENCE**

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