ASSIGNMENT-3

INTERACTIVE STORYTELLING

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URL: https://bijothomas.shinyapps.io/Crime_Rates_Vic_2010-2019/

Data Reference: Data Reference: Criminal Incidents in Victoria,Australia,Apr 2020, from Crime Statistics Agency.
website: https://www.crimestatistics.vic.gov.au/explore-crime-by-location

Code:

```
library(shiny)

library(ggplot2)

library(tidyr)

library(readxl)

library(dplyr)


#Uploading the data

df <-read_excel("Australia_crimes_data.xlsx",sheet=2)


#Selecting the relevant features

df2<- df %>% select(Year,`Offence Division`,`Incidents Recorded`)


#Renaming the columns

df2 <- df2%>% rename(Year = Year, Offence_Division = `Offence Division`,Incidents_Recorded =
`Incidents Recorded`)
```

```
#Grouping the data for plotting

crimesData <- df2 %>% group_by(Year,Offence_Division) %>% summarise(Incidents_Recorded = sum(Incidents_Recorded))


# Define UI for application that draws a histogram

ui <- fluidPage(

  #Title of visualisation

  titlePanel("Crimes across Victoria"),

  sidebarLayout(

    sidebarPanel(

      #Assistive text for interactive tool

      strong("Please select a year to view total crimes for a specific period or press play to view the changes across time."),

      #Slider input

      sliderInput("Year", "Year",

                  min(crimesData$Year), max(crimesData$Year),

                  value = 1, animate = animationOptions(interval = 500, loop = TRUE)),


      br(),

      br(),

      strong("Please select the category of crime you want to see the grouth of over the years"),

      br(),

      selectInput("Crime_Category","Crime Category",c("A Crimes against the person","B Property and deception offences","C Drug offences","D Public order and security offences","E Justice procedures offences","F Other offences")),

    ),


    mainPanel(plotOutput("barPlot"),

              br(),

              strong("Year wise change in crime incidents for particular category of crimes."),

              plotOutput("lineGraph"),

              hr(),
```

```
        tags$footer("Data Reference: Criminal Incidents in Victoria,Australia,Apr 2020, from Crime Statistics Agency. \nwebsite: https://www.crimestatistics.vic.gov.au/explore-crime-by-location")


   )

  )

)


#Assigning server function

server <- function(input, output) {

  #Barplot function

  output$barPlot <- renderPlot({

    #Subsetting dataset to be used in function

    data <- subset(crimesData, crimesData$Year == input$Year)

    #ggplot function

    ggplot(data = data, aes(x = c("A","B","C","D","E","F"), y = Incidents_Recorded)) + geom_col(aes(fill = Offence_Division), color = "black") +

      labs(title = "Crimes accros victoria Over the Years 2010-2019", x = "Category of Crime", y = "No. Of Incidents Recorded") +

      theme_bw() + scale_y_continuous(limits = c(0,272000)) +

      scale_fill_manual(values = c("#D8BFD8", "#DA70D6", "#FF00FF", "#9370DB", "#4B0082","red"))


  })


  output$lineGraph <- renderPlot({


    #Subsetting dataset to be used in function

    data <- subset(crimesData, crimesData$Offence_Division == input$Crime_Category )


    #ggplot function

    ggplot(data = data, aes(x = Year, y = Incidents_Recorded))  + geom_line()+ coord_cartesian(xlim = c(2010, 2019))+ scale_x_continuous(breaks = seq(2010, 2019, by = 1))+

      labs(title = "Crimes accros victoria Over the Years 2010-2019", x = "Year", y = "No. Of Incidents Recorded")
```

```
  })
}

# Deploy app
shinyApp(ui = ui, server = server)
```