Dimamonds_ FitModel with Shiny

NT

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Instructions:

This peer assessed assignment has two parts. First, you will create a Shiny application and deploy it
on Rstudio's servers. Second, you will use Slidify or Rstudio Presenter to prepare a reproducible pitch
presentation about your application. (more with README.md)

Reproducible Pitch

ui.R and server.R file are included for reproducibility purpose.

The Shiny App_ Fit model(Linear Regression)

- URL: *https://github.com/Nhitruong20889/DevelopDataProject_Shiny* -All the files/code are in either
  .html or .pdf format.

Diamonds Dataset

Diamonds Dataset: Format A data frame with 53940 rows and 10 variables

FitModel

here is the server.R

```
library(shiny)
library(datasets)
library(ggplot2)
library(plotly)

prdt <- diamonds
prdt$cut <- factor(prdt$cut, labels = c("Fair", "Good","Very Good","Premium","Ideal"), ordered = T)
prdt$color <-factor(prdt$color, labels = c("J", "I","H","G", "F","E","D"), ordered = T)
prdt$clarity <-factor(prdt$clarity, labels = c("I1", "SI2","SI1","VS2", "VS1","VVS2","VVS1","IF"), order
        modelt <- reactive({
                paste("price ~", input$variable)
        })
```

```
        modeltp <- reactive({
                paste("price ~", "as.integer(", input$variable, ")")
        })

        fitmod <- reactive({
                lm(as.formula(modeltp()), data=prdt)
        })

        output$caption <- renderText({ modelt()
        })

        output$prbplot <- renderPlot({
                boxplot(as.formula(modelt()),data = prdt,
                        outline = input$outliers)

        })

        output$fitmod <- renderPrint({
                summary(fitmod())
        })

        output$prplot <- renderPlot({
                with(prdt, {plot(as.formula(modeltp()))
                        abline(fitmod(), col=5, size=8)
                })
        })
```

And here is iu.R

```
library(shiny)
shinyUI(
        navbarPage("Shiny Application",
                tabPanel("Analysis",
                        fluidPage(
                                titlePanel("The relationship between variables and Diamonds' prices"),
                                sidebarLayout(
                                        sidebarPanel(
                                                selectInput("variable", "Input Variable:",
                                                        c("The weight of diamonds" = "carat",
                                                                "Diamonds color" = "color",
                                                                "How clear of the diamonds"="clarity",
                                                                "Quality of that cut"="cut",
                                                                "Total depth percentage" = "depth",
                                                                "Width of topof diamonds" = "table"


                                                )),

                                                checkboxInput("outliers", "Show BoxPlot's outliers", FA
                                        ),

                                        mainPanel(
                                                h3(textOutput("caption")),
```

```r
                                        tabsetPanel(type = "tabs",
                                            tabPanel("BoxPlot graph", plotOutput("p
                                            tabPanel("Linear Regression model",
                                                     plotOutput("prplot"),
                                                     verbatimTextOutput("fitmod")
                                            )
                                        )
                                    )
                                )
                 ),

            tabPanel("Data detail",
                     h2("Diamonds"),
                     hr(),
                     h3("Description"),
                     helpText("TA dataset containing the prices and other attributes of almost 5

                     h3("Format"),
                     p("A data frame with 53940 observations on 10 variables."),

                     p("  [, 1]   price    US dollars_ $326-$18,823"),
                     p("  [, 2]   carat   weight of the diamond (0.2-5.01)"),
                     p("  [, 3]   cut      quality of the cut (Fair, Good, Very Good, Premium, Id
                     p("  [, 4]   color   diamond colour, from D (best) to J (worst)"),
                     p("  [, 5]   clarity     a measurement of how clear the diamond is (I1 (wor
                     p("  [, 6]   x   length in mm (0-10.74)"),
                     p("  [, 7]   y   width in mm (0-58.9)"),
                     p("  [, 8]   z   depth in mm (0-31.8)"),
                     p("  [, 9]   depth   total depth percentage = z / mean(x, y) = 2 * z / (x +
                     p("  [,10]   table   width of top of diamond relative to widest point (43-9

            ),

            tabPanel("My Github repository",
                     a("https://github.com/Nhitruong20889/DevelopDataProject_Shiny"),
                     hr(),
                     h4("The repository is Develop Data Products Project_Shiny")
            )
        )
    )
)
```