APM Q6

Codes:

```r
library(shiny)
library(datasets)

# Define a server for the Shiny app
server <- function(input, output) {

  # Fill in the spot we created for a plot
  output$phonePlot<-renderPlot({
  if (input$variable =="Year"){
     barplot(WorldPhones[input$year,]*1000,
         main=input$year,
          ylab="Number of Telephones",
          xlab="Region")
 }
 else{
   barplot(WorldPhones[, input$region]*1000,
        main=input$region,
        ylab="Number of Telephones",
        xlab="Year")
 }
 }, height = 700)

}


# Use a fluid Bootstrap layout
ui <- fluidPage(

 # Give the page a title
 titlePanel("Telephones by region"),

 # Generate a row with a sidebar
 sidebarLayout(

  # Define the sidebar with one input
  sidebarPanel(
    checkboxGroupInput("variable", "Variables to show:",
              c("Region","Year"),selected = "Region"),
    selectInput("region", "Region:",
          choices=colnames(WorldPhones)),
    selectInput("year", "Year:",
```

```
        choices=rownames(WorldPhones)),
    hr(),
    helpText("Data from AT&T (1961) The World's Telephones.")
  ),

  # Create a spot for the barplot
  mainPanel(
    plotOutput("phonePlot")
  )
 )
)

shinyApp(ui = ui, server = server)
```
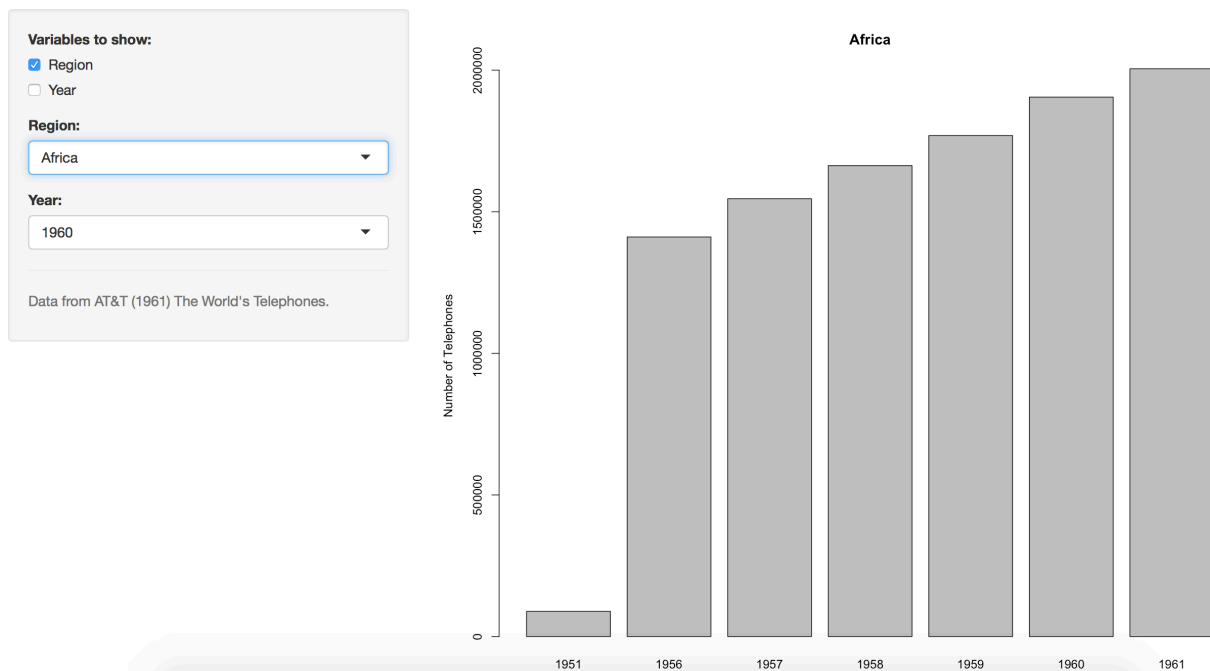
Example output:

If "Africa" in "Region" is selected, the number of telephones in Africa for each year is displayed in the bar plot below:

If "1960" in "Year" is selected, the number of telephones in 1960 for each region is displayed in the bar plot below:

Variables to show:
☐ Region
☑ Year

Region:
N.Amer ▼

Year:
1960 ▼

Data from AT&T (1961) The World's Telephones.