

Developing Data Products: Quiz 1

Marcos Gestal

Question 1

Consider the following code for the cars data set

```
library(manipulate)
myPlot <- function(s) {
  plot(cars$dist - mean(cars$dist), cars$speed - mean(cars$speed))
  abline(0, s)
}
```

This function plots distance versus speed, each de-meaned and an associated line of slope s . Which of the following code will make a manipulate plot that creates a slider for the slope?

- `manipulate(myPlot, s = slider(0, 2, step = 0.1))`
- `manipulate(myPlot(s), s = slider(0, 2, step = 0.1))`
- `manipulate(myPlot(s), x.s = slider(0, 2, step = 0.1))`
- `manipulate(myPlot(s), slider = x(0, 2, step = 0.1))`

Solution

- `manipulate(myPlot(s), s = slider(0, 2, step = 0.1))`

Question 2

Which of the following code uses the `rCharts` package to create a sortable and searchable data table for the `airquality` data set? Assume the `rCharts` package and the `airquality` data set have already been loaded into R.

- `dTable(airquality, sPaginationType = "full_numbers")`
- `d <- data.frame(airquality, stringsAsFactors = FALSE) print(d)`
- `airquality`
- `head(airquality)`

Solution

- `dTable(airquality, sPaginationType = "full_numbers")`

Question 3

A basic shiny data product requires:

- A `server.R` file only.
- A `ui.R` file only.
- A `shiny.R` file.
- A `ui.R` and `server.R` file or a `server.R` file and a directory called `www` containing the relevant html files.

Answer

- A `ui.R` and `server.R` file or a `server.R` file and a directory called `www` containing the relevant html files.

Question 4

What is incorrect about the followig syntax in `ui.R`?

```
library(shiny)
shinyUI(pageWithSidebar(
  headerPanel("Data science FTW!"),
  sidebarPanel(
    h2('Big text')
    h3('Sidebar')
  ),
  mainPanel(
    h3('Main Panel text')
  )
))
```

- The `h2` command has the wrong arguments.
- Missing a comma in the sidebar panel
- The `h3` command should be an `h2` command.
- The "Sidebar" should say "Sidebar text".

Answer

- Missing a comma in the sidebar panel

Question 5

Consider the following code in `ui.R`

```
shinyUI(pageWithSidebar(
  headerPanel("Example plot"),
  sidebarPanel(
    sliderInput('mu', 'Guess at the mu', value = 70, min = 60, max = 80, step = 0.05,)
  ),
  mainPanel(
```

```

    plotOutput('newHist')
  )
})

```

And the following `server.R` code.

```

library(UsingR)
data(galton)

shinyServer(
  function(input, output) {
    output$myHist <- renderPlot({
      hist(galton$child, xlab='child height', col='lightblue',main='Histogram')
      mu <- input$mu
      lines(c(mu, mu), c(0, 200),col="red",lwd=5)
      mse <- mean((galton$child - mu)^2)
      text(63, 150, paste("mu = ", mu))
      text(63, 140, paste("MSE = ", round(mse, 2)))
    })
  }
)

```

Why isn't it doing what we want?

- It should be `mu <- input$mean` in `server.R`
- The `server.R` output name isn't the same as the `plotOutput` command used in `ui.R`.
- The limits of the slider are set incorrectly and giving an error.
- The phrase “Guess at the mu value” should say “mean” instead of “mu”

Solution

- The `server.R` output name isn't the same as the `plotOutput` command used in `ui.R`.
(`myHist` insted of `newHist`)