# Coursera - Developing Data Products - Quiz1

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## Question 1

Which of the following are absolutely necessary for creating a functioning shiny app? (Check all that apply)

- A server.R file that sets configuration options for hosting the App
- A ui.R file that contains information about the CSS and styling of the App
- A shiny.R file containing calls to shinyServer() and shinyUI()
- A ui.R file containing a call to shinyUI()
- A server.R file containing a call to shinyServer()

***Answer :***The right items are : ***A ui.R file containing a call to shinyUI()*** and ***A server.R file containing a call to shinyServer()***

## Question 2

What is incorrect about the following syntax in ui.R?

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

- Missing comma after the h3 command
- The h3 command should be an h2 command
- Missing a comma in the sidebar panel
- The h2 command does not take text arguments

***Answer : Missing a comma in the sidebar panel***.

## Question 3

Consider the following 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 in server.R

```r
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? (Check all that apply.)

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

***Answer : The server.R output name isn't the same as the plotOutput command used in ui.R.***

## Question 4

What are the main differences between creating a Shiny Gadget and creating a regular Shiny App? (Check all that apply)

- Shiny Gadgets are specially designed for use on mobile phones and tablet computers.
- Shiny Gadgets are designed to be used by R users in the middle of a data analysis.
- Shiny Gadgets are designed to have small user interfaces that fit on one page.
- Shiny Gadgets can be run on a user's personal computer, unlike a regular Shiny App which needs to be hosted online.
- Shiny Gadgets are smaller programs and therefore run faster than Shiny Apps.

***Answer :***The right items are : ***Shiny Gadgets are designed to be used by R users in the middle of a data analysis*** and ***Shiny Gadgets are designed to have small user interfaces that fit on one page***.

## Question 5

Consider the following R script:

```r
library(shiny)
library(miniUI)

pickXY <- function() {
  ui <- miniPage(
    gadgetTitleBar("Select Points by Dragging your Mouse"),
    miniContentPanel(
      plotOutput("plot", height = "100%", brush = "brush")
    )
```

```
    )

    server <- function(input, output, session) {
        output$plot <- renderPlot({
          plot(data_frame$X, data_frame$Y, main = "Plot of Y versus X",
              xlab = "X", ylab = "Y")
        })
        observeEvent(input$done, {
          stopApp(brushedPoints(data_frame, input$brush,
                              xvar = "X", yvar = "Y"))
        })
    }

    runGadget(ui, server)
}

my_data <- data.frame(X = rnorm(100), Y = rnorm(100))

pickXY(my_data)
```

Why isn't it doing what we want?

- The input data is defined in such a way that it is not compatible with pickXY()
- The wrong column names are passed to brushedPoints()
- No arguments are defined for pickXY()
- The call to plot() references the column names of the data frame in the wrong order.

*Answer :No arguments are defined for pickXY().*