



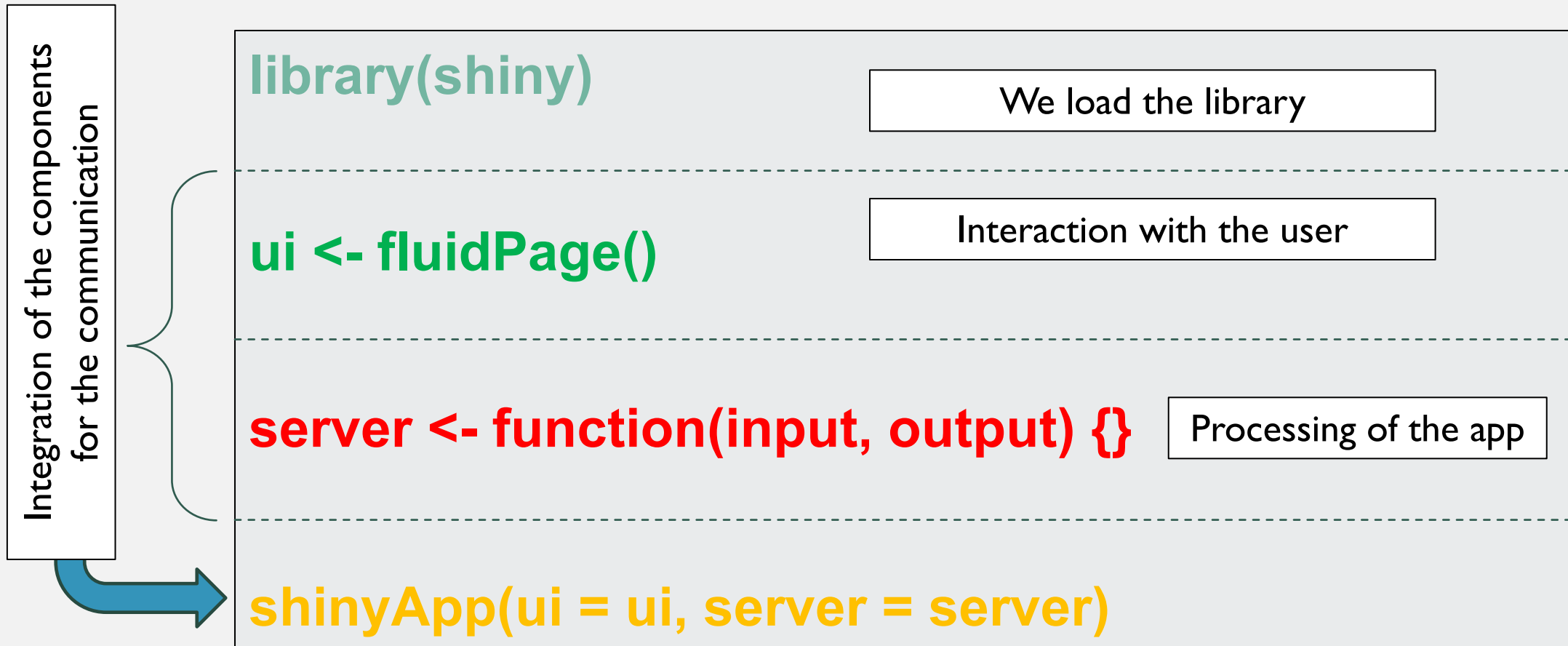


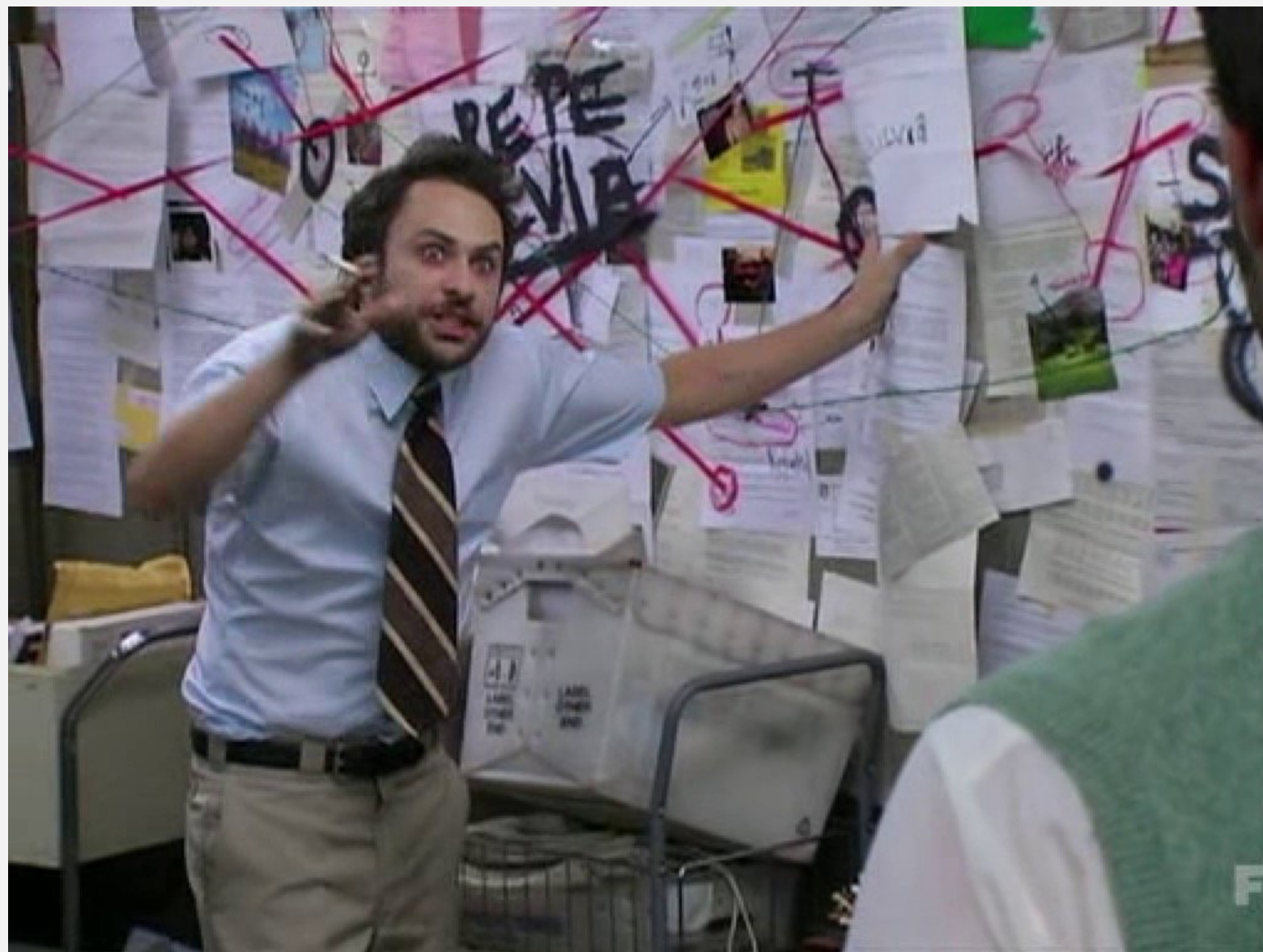
Section Ib

INPUT
OUTPUT
SERVER



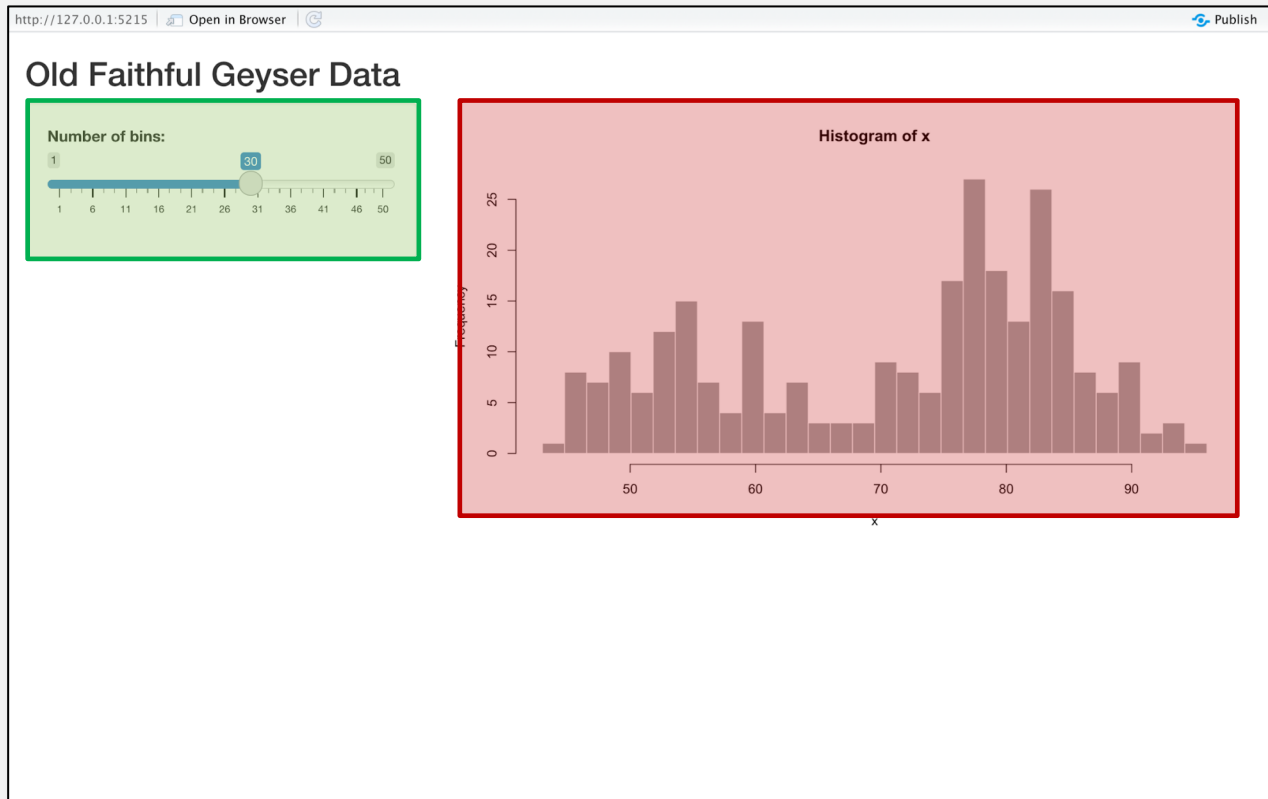
BASIC COMPONENTS





BUILDING YOUR APP

Shiny apps are built using elements such as **inputs** y **outputs**



```
library(shiny)
```

```
ui <- fluidPage(
```

```
...Input()
```

```
...Output()
```

```
)
```

```
server <- function(input, output) {}
```

```
shinyApp(ui = ui, server = server)
```

INPUTS

Buttons

Action

Submit

`actionButton()`
`submitButton()`

Single checkbox

☒ Choice A

`checkboxInput()`

Checkbox group

☒ Choice 1
☐ Choice 2
☐ Choice 3

`checkboxGroupInput()` `dateInput()`

Date input

2014-01-01

Date range

2014-01-24 to 2014-01-24

`dateRangeInput()`

File input

Choose File No file chosen

`fileInput()`

Numeric input

1

`numericInput()`

Password Input

`passwordInput()`

Radio buttons

☒ Choice 1
☐ Choice 2
☐ Choice 3

`radioButtons()`

Select box

Choice 1

`selectInput()`

Sliders

0 50 100
0 25 75 100

`sliderInput()`

Text input

Enter text...

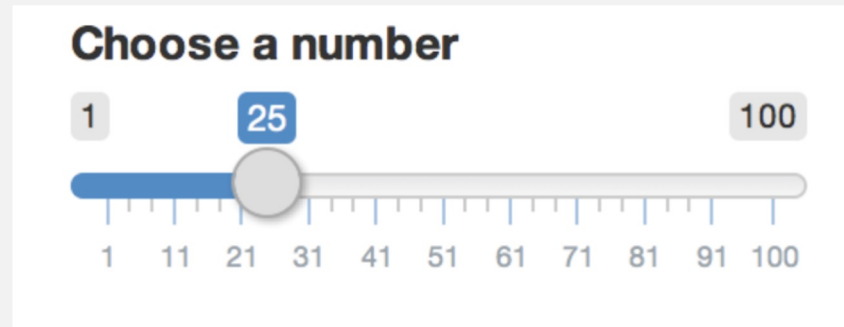
`textInput()`

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<https://shiny.rstudio.com/gallery/widget-gallery.html>

BASIC SINTAX FOR **INPUTS**



```
ui <- fluidPage(  
  sliderInput(inputId = "num", label = "Choose a number", ...) )
```

Type of input

Input ID
(For referencing in the
code)

Label for the User

Other
specifications

OUTPUTS

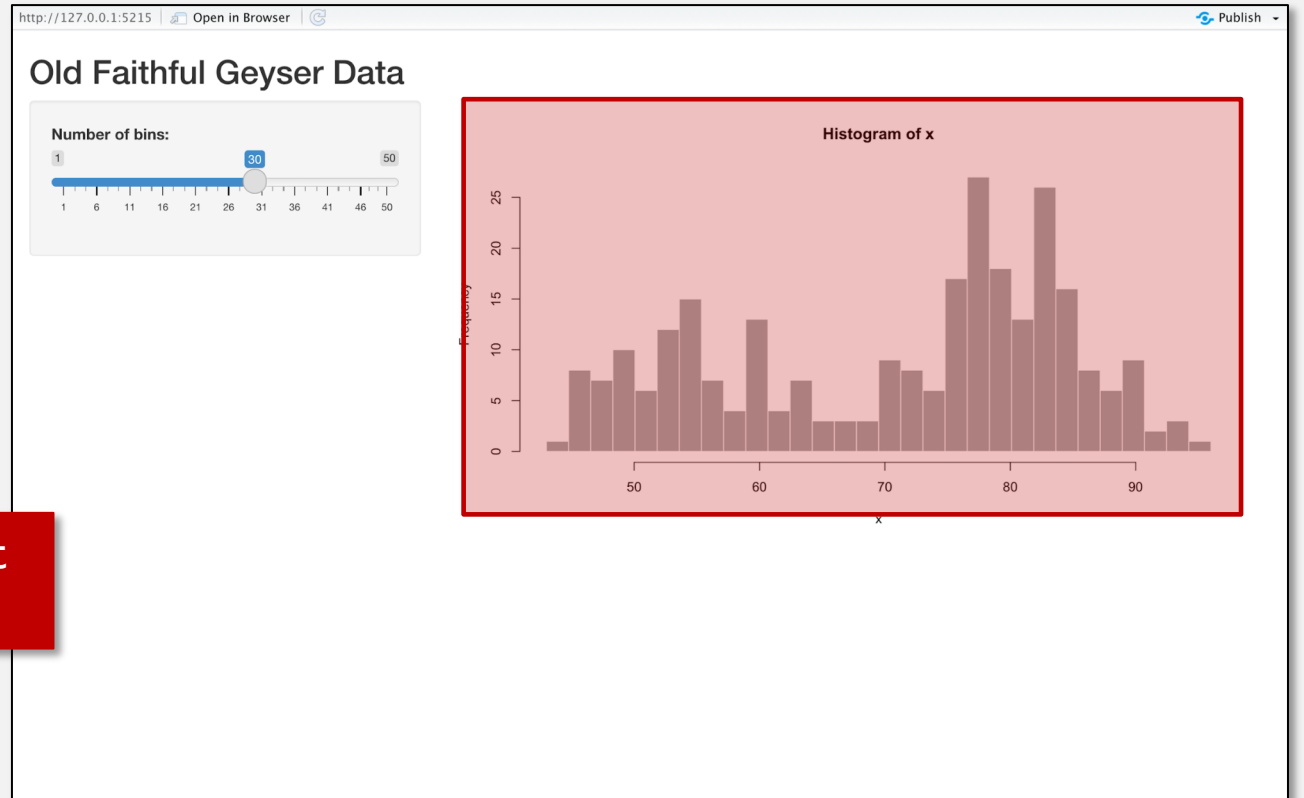
Function	Object
dataTableOutput ()	Table
htmlOutput ()	Web page
imageOutput ()	Image
plotOutput ()	plot
tableOutput ()	table
textOutput ()	text
uiOutput ()	UI element
verbatimTextOutput ()	Text
...Output ()	Other elements from libraries

OUTPUTS

```
ui <- fluidPage(  
  plotOutput("hist") )
```

Type of output

Name of the output
object



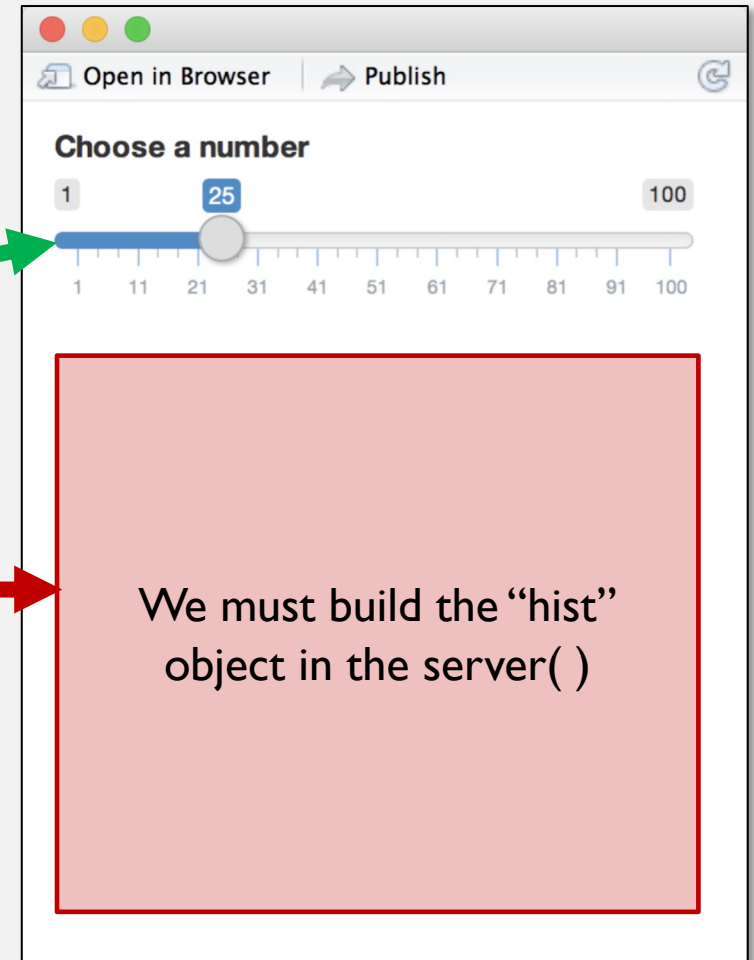
INPUTS AND OUTPUTS IN THE UI

```
library(shiny)

ui <- fluidPage(
  sliderInput(inputId = "num",
    label = "Choose a number",
    value = 25, min = 1, max = 100),
  plotOutput("hist")
)

server <- function(input, output) {}

shinyApp(ui = ui, server = server)
```



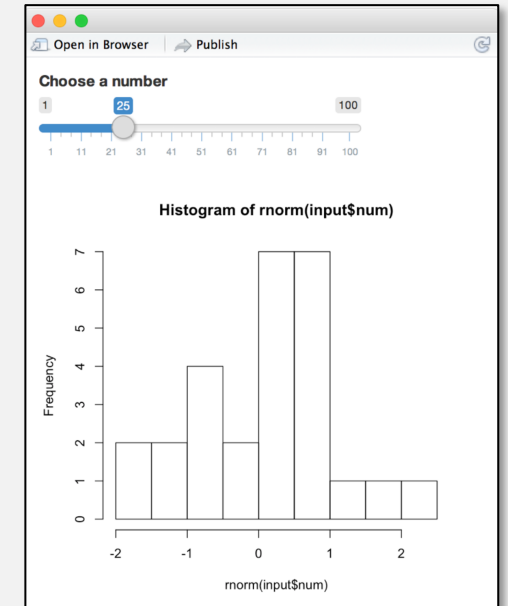
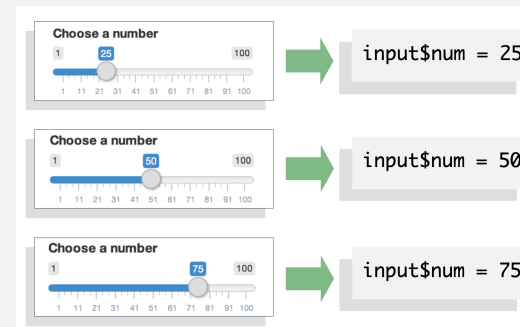
INPUTS AND OUTPUTS IN THE SERVER

```
library(shiny)

ui <- fluidPage(
  sliderInput(inputId = "num",
    label = "Choose a number",
    value = 25, min = 1, max = 100),
  plotOutput("hist")
)

server <- function(input, output) {
  output$hist <- renderPlot({
    hist(rnom(input$num))
  })
}

shinyApp(ui = ui, server = server)
```




RENDERING THE OUTPUT

```
library(shiny)

ui <- fluidPage(
  sliderInput(inputId = "num",
    label = "Choose a number",
    value = 25, min = 1, max = 100),
  plotOutput("hist")
)
server <- function(input, output) {
  output$hist <- renderPlot ({
  })
}

shinyApp(ui = ui, server = server)
```



A dashed line with an arrow at the end points from the `output$hist` assignment in the server function to the `"hist"` argument in the `plotOutput` function call in the UI definition, illustrating how the server's output is rendered into the UI.

Function	Object
<code>renderDataTable ()</code>	Interactive table
<code>renderImage ()</code>	Image
<code>renderPlot ()</code>	Plot
<code>renderPrint ()</code>	Code block
<code>renderTable ()</code>	Table
<code>renderText ()</code>	String of text
<code>renderUI ()</code>	Element of Shiny UI