

Ciência de Dados Aplicada à Saúde

Código: IAA019

Visualização Interativa de Dados em Saúde (parte 2)

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R/Shiny apps

<http://shiny.rstudio.com/gallery/>

Arquitetura básica da App

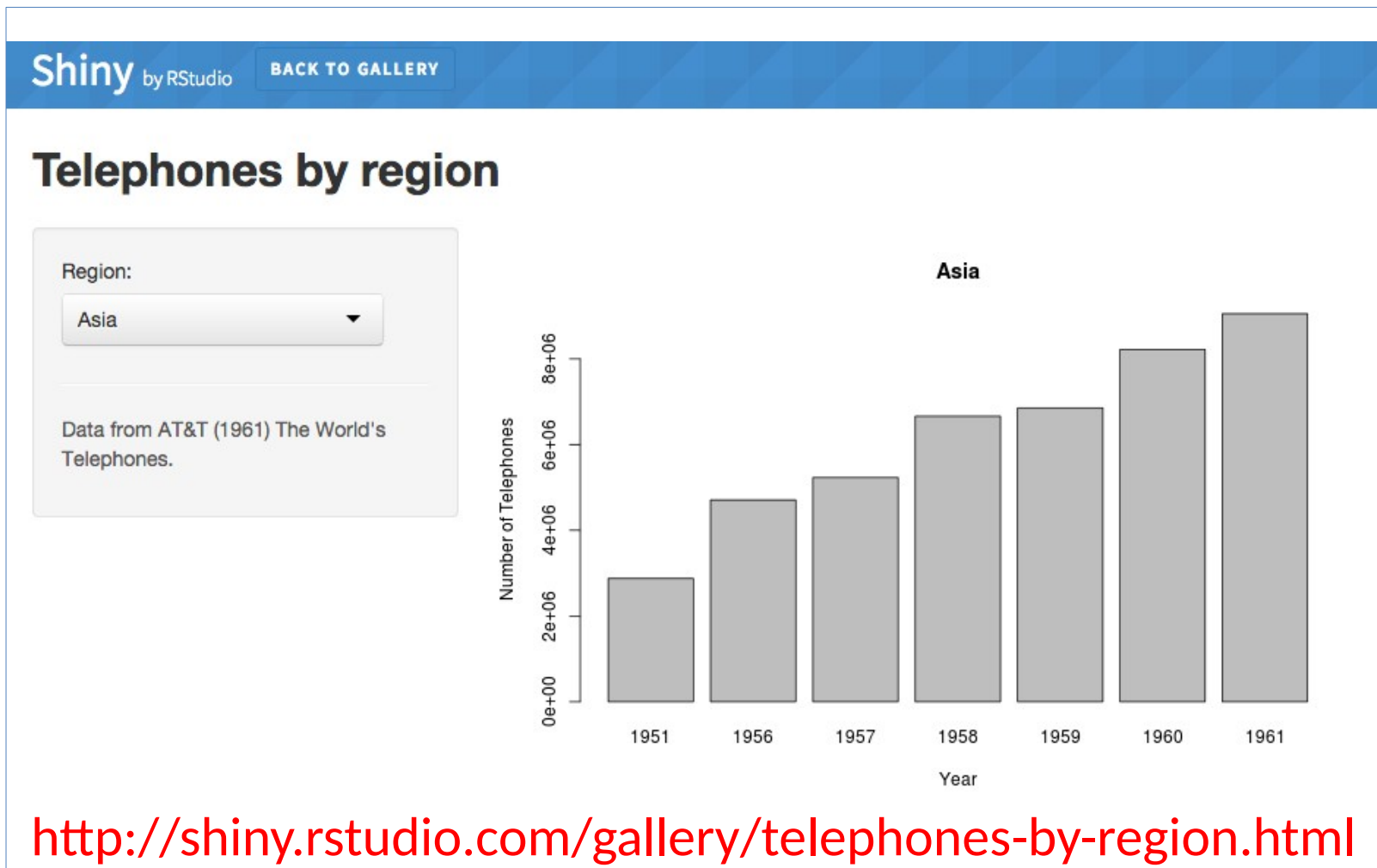
```
library(shiny)
ui <- fluidPage()
server <- function(input, output)
shinyApp(ui = ui, server = server)
```

ui: Interface do usuário

server: função que instrui como construir os objetos R

shinyApp: combina a **ui** e **server**

Exemplo 1: interatividade



Exemplo 1: interatividade

```
# Observe o 'WorldPhones' dataset
```

```
library(datasets)
```

```
dim(WorldPhones)
```

```
[1] 7 7
```

```
head(WorldPhones)
```

	N.Amer	Europe	Asia	S.Amer	Oceania	Africa	Mid.Amer
1951	45939	21574	2876	1815	1646	89	555
1956	60423	29990	4708	2568	2366	1411	733
1957	64721	32510	5230	2695	2526	1546	773
1958	68484	35218	6662	2845	2691	1663	836
1959	71799	37598	6856	3000	2868	1769	911
1960	76036	40341	8220	3145	3054	1905	1008

<http://shiny.rstudio.com/gallery/telephones-by-region.html>

Arquivo *server.R*

```
# Load the 'WorldPhones' dataset in the datasets
library(datasets)

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

  # Fill in the spot we created for a plot
  output$phonePlot <- renderPlot({

    # Render a barplot
    barplot(WorldPhones[,input$region]*1000,
            main=input$region,
            ylab="Number of Telephones",
            xlab="Year")

  })
}
```

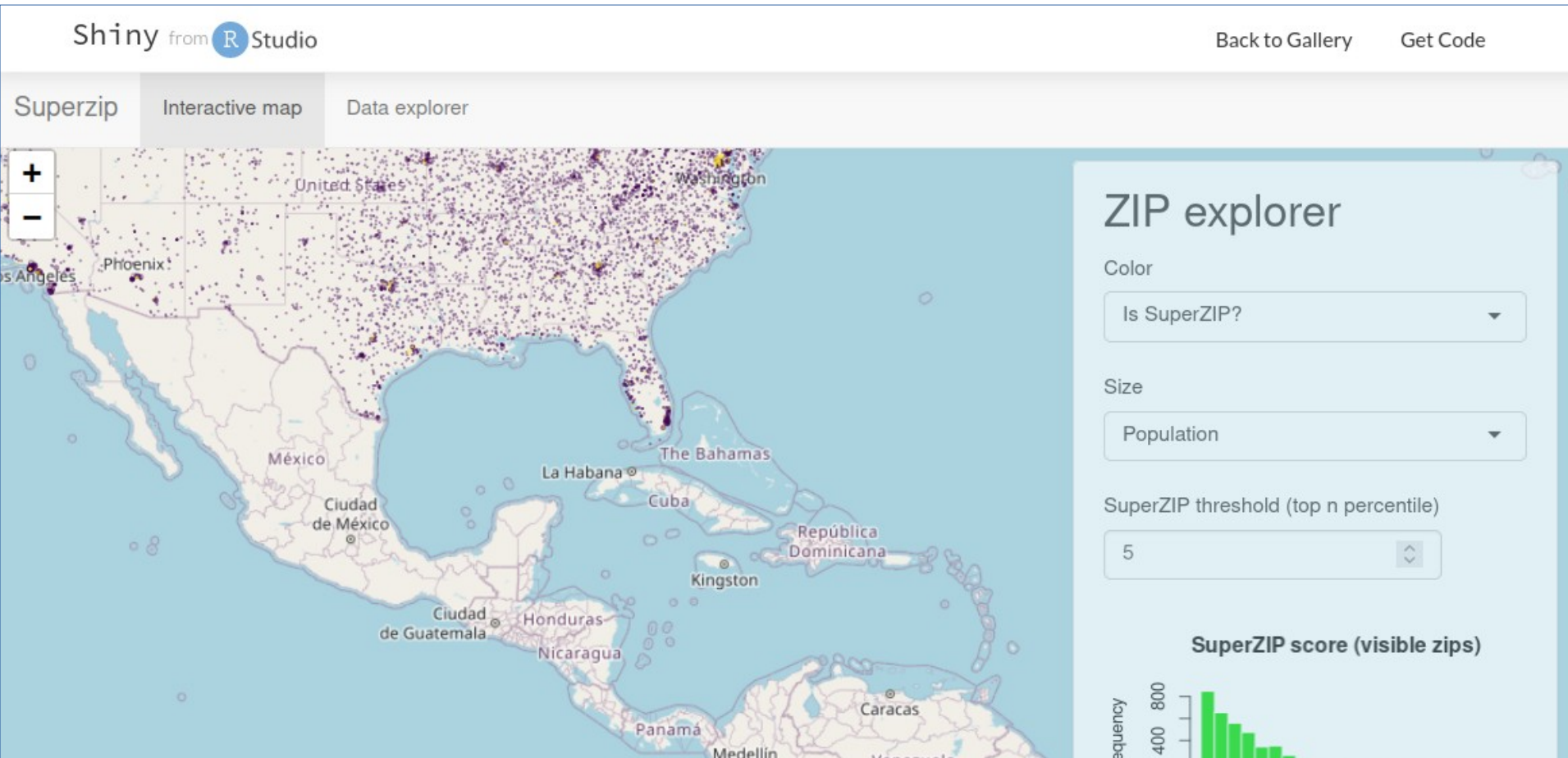
<http://shiny.rstudio.com/gallery/telephones-by-region.html>

Arquivo ui.R

```
# Load the 'WorldPhones' dataset in the datasets
library(datasets)

# Use a fluid Bootstrap layout
fluidPage(
  # Give the page a title
  titlePanel("Telephones by region") ,
  # Generate a row with a sidebar
  sidebarLayout(
    # Define the sidebar with one input
    sidebarPanel(
      selectInput("region", "Region:", choices=colnames(WorldPhones)) ,
      hr() ,
      helpText("Data from AT&T (1961) The World's Telephones.")
    ) ,
    # Create a spot for the barplot
    mainPanel(
      plotOutput("phonePlot")
    )
  )
)
```


Exemplo 2: mapa interativo



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

Exemplo 3: associação

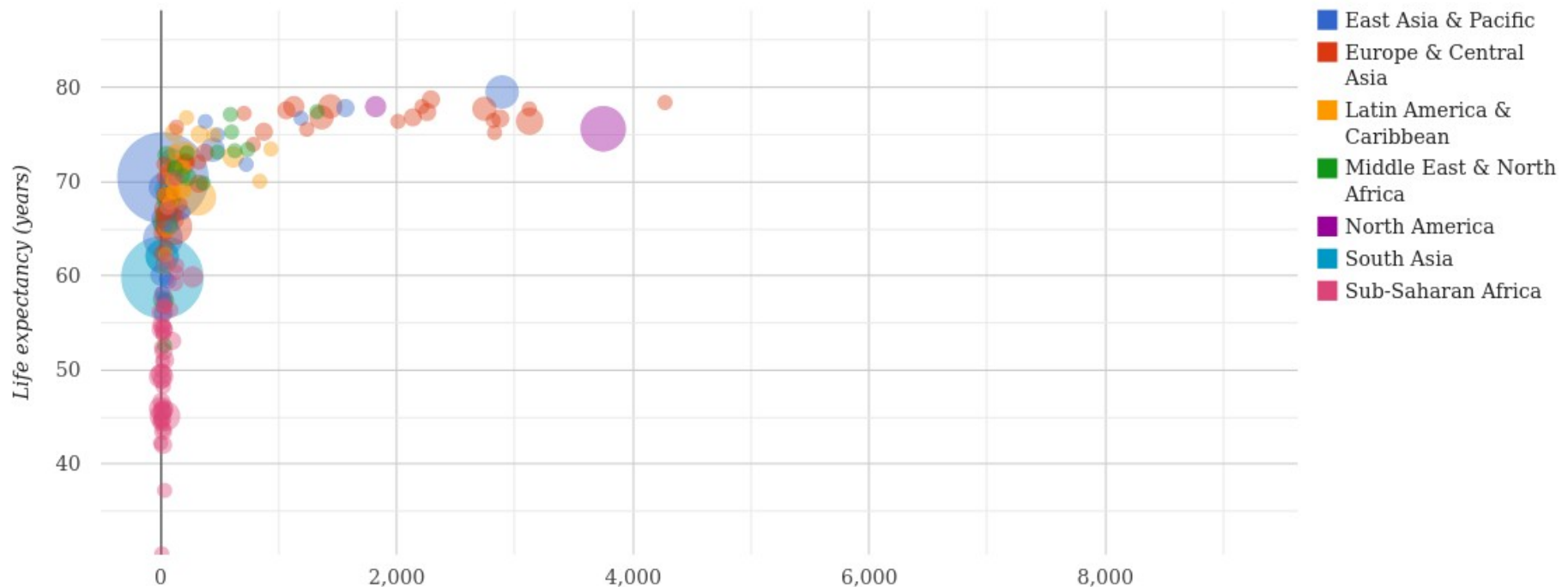
Shiny from R Studio

Back to Gallery

Get Code

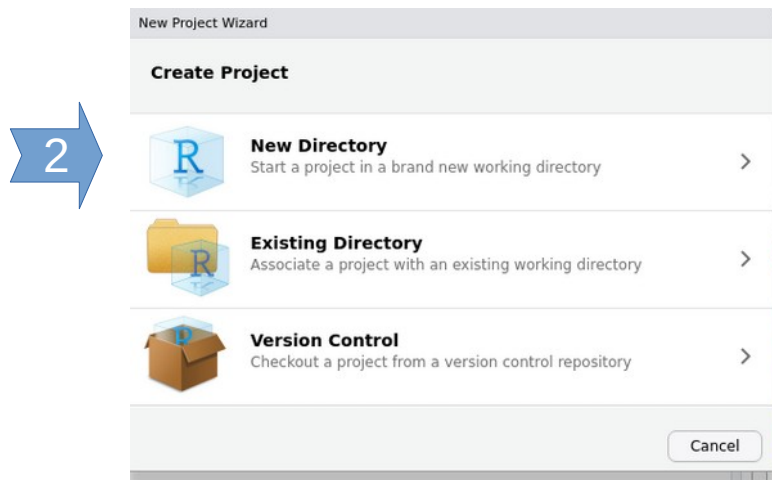
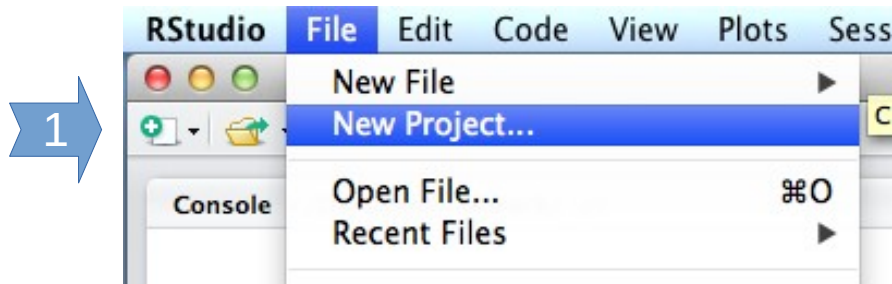
Google Charts demo

Health expenditure vs. life expectancy, 1995

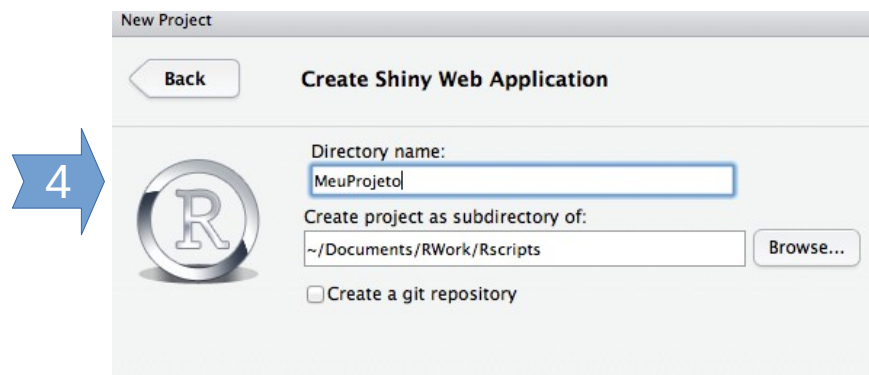
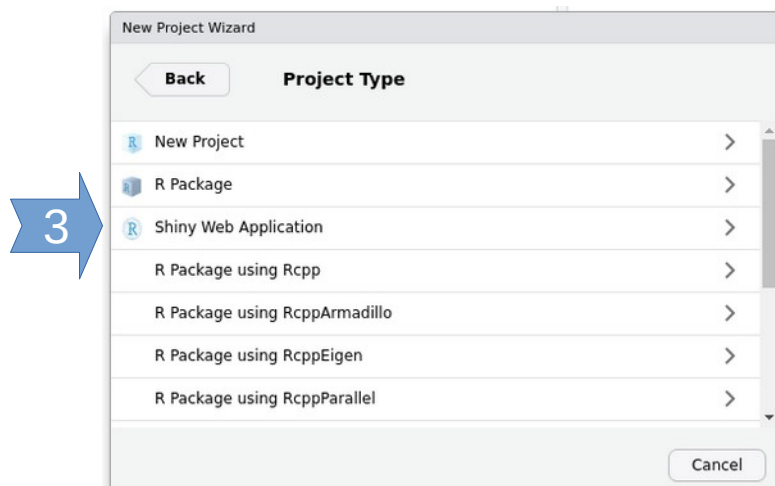


<https://shiny.rstudio.com/gallery/google-charts.html>

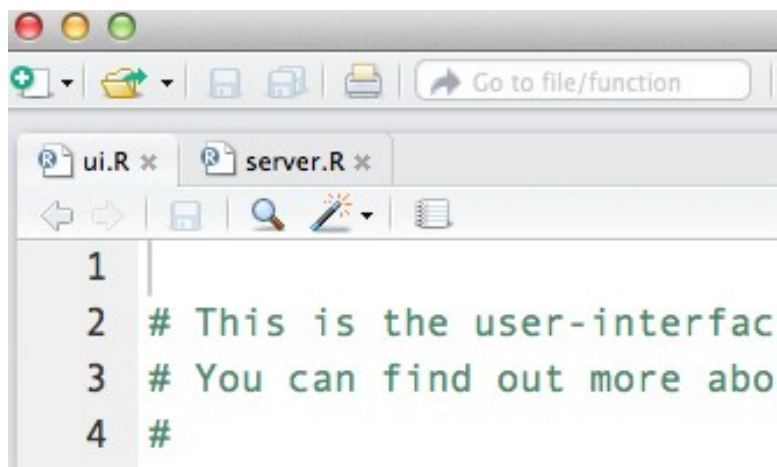
Iniciar novo projeto






Iniciar novo projeto



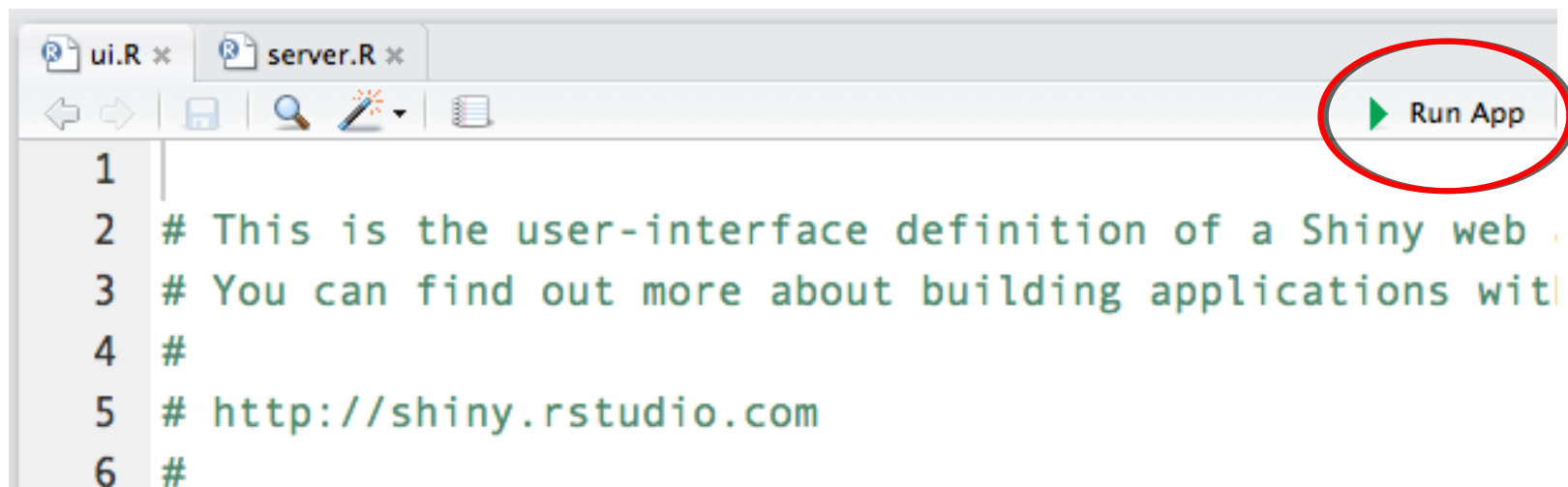
Iniciar novo projeto



```
1 |
2 # This is the user-interfac
3 # You can find out more abo
4 #
```

Files	Plots	Packages	Help	Viewer
New Folder Delete Rename More ▾				
Home > Documents > RWork > Rscripts > MeuProjeto				
Name				Size
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<input type="checkbox"/>		MeuProjeto.Rproj		205 B
<input type="checkbox"/>		server.R		518 B
<input type="checkbox"/>		ui.R		618 B

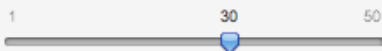
Iniciar novo projeto



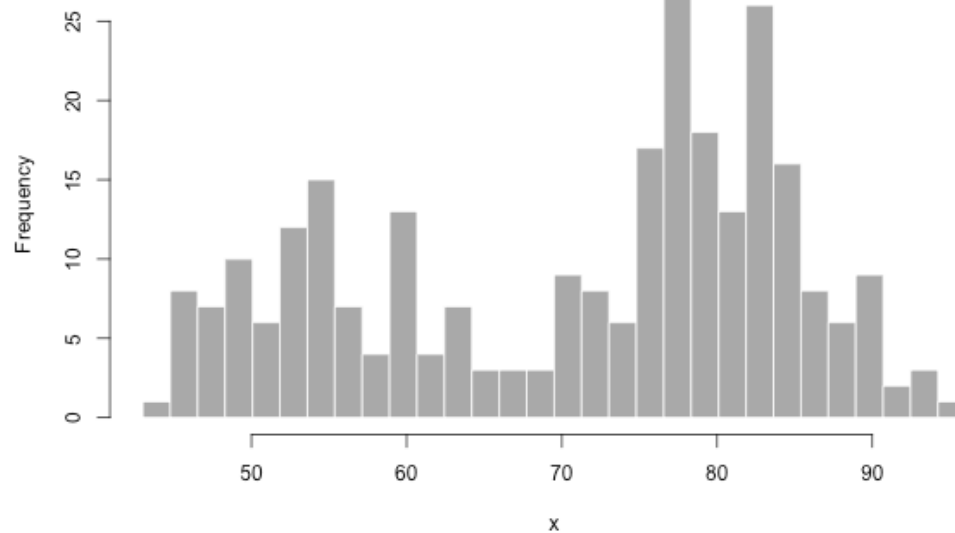
Iniciar novo projeto

Old Faithful Geyser Data

Number of bins:



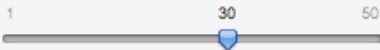
Histogram of x



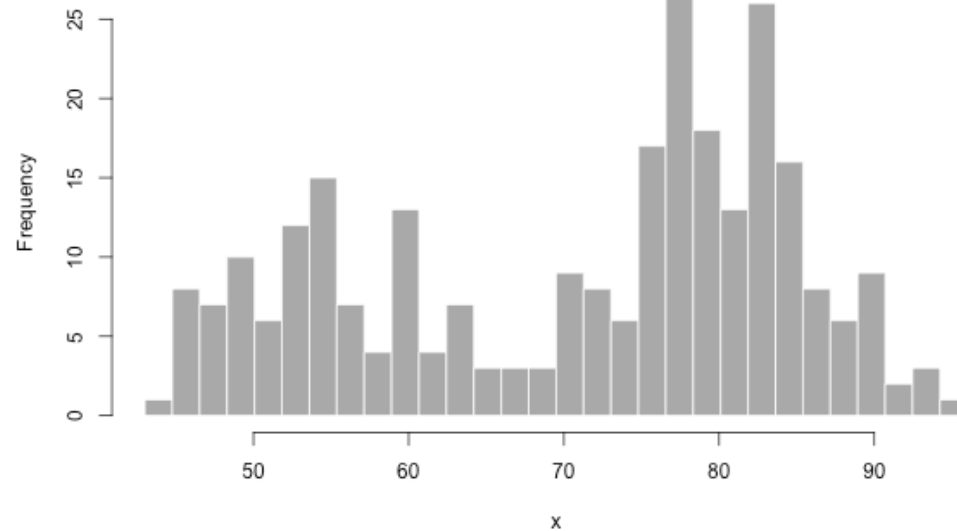
Iniciar novo projeto

Old Faithful Geyser Data

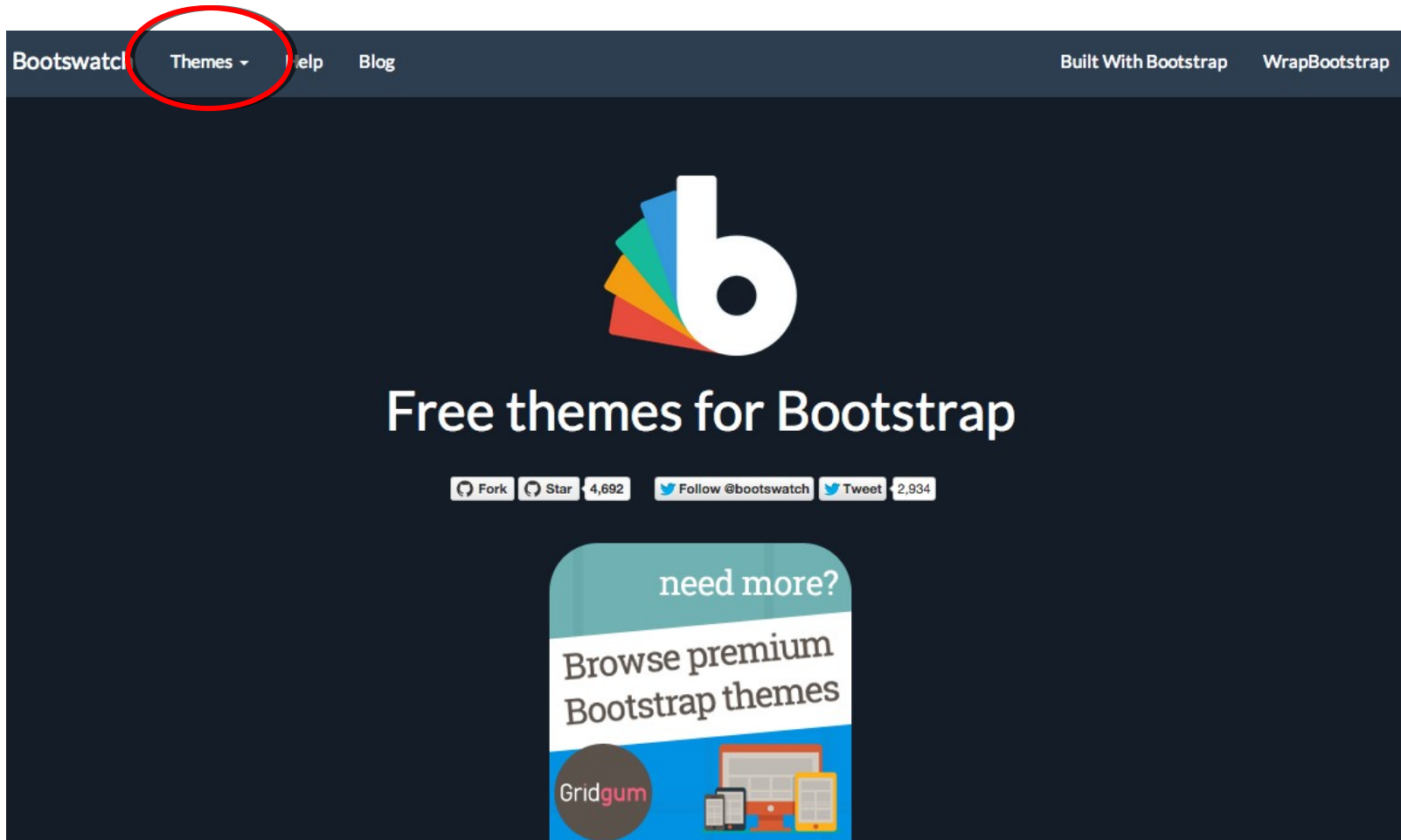
Number of bins:



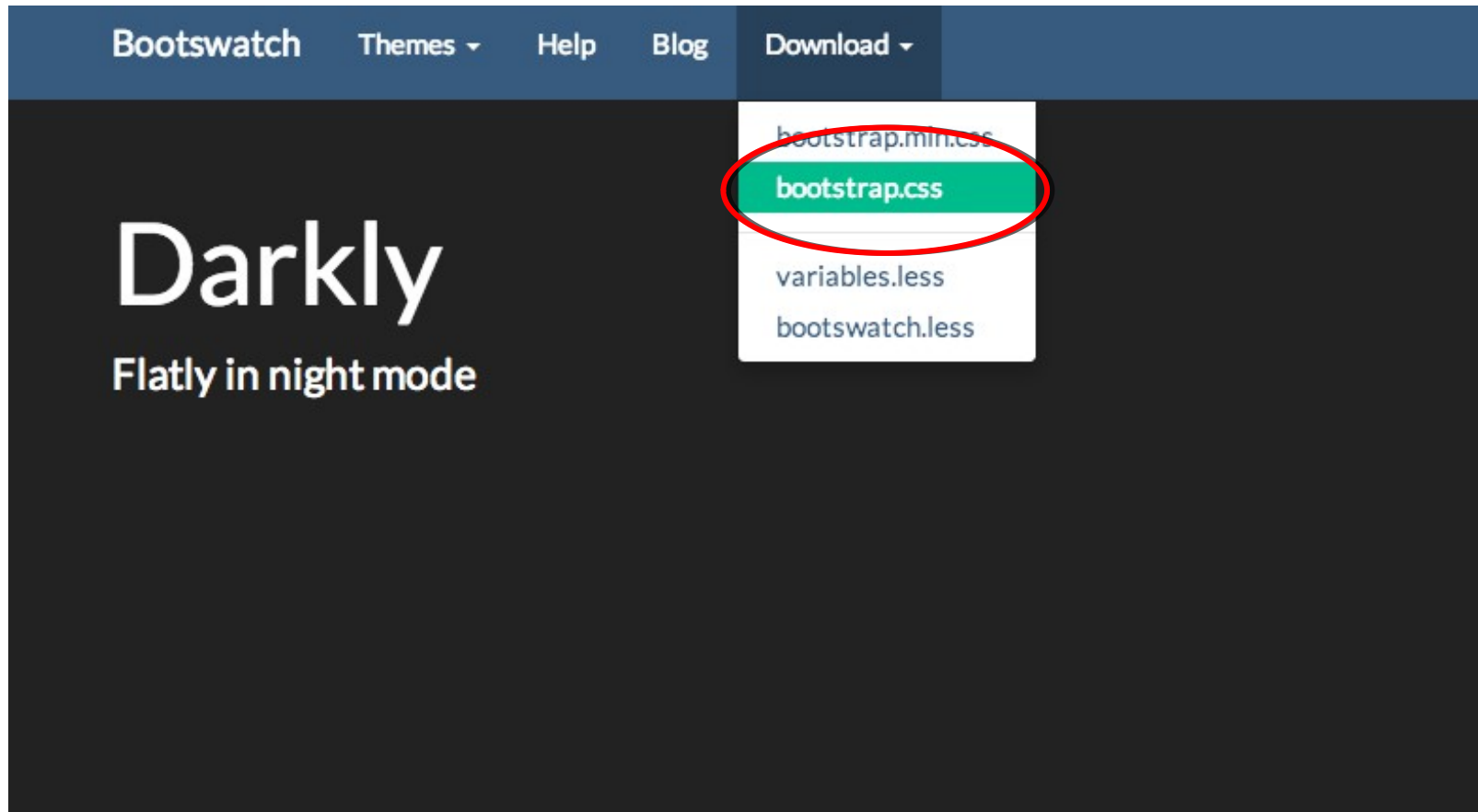
Histogram of x



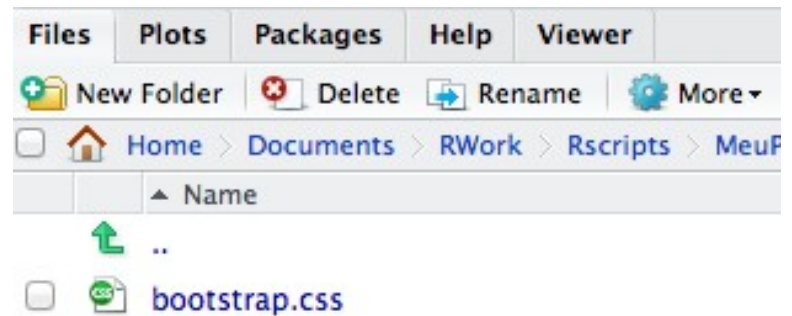
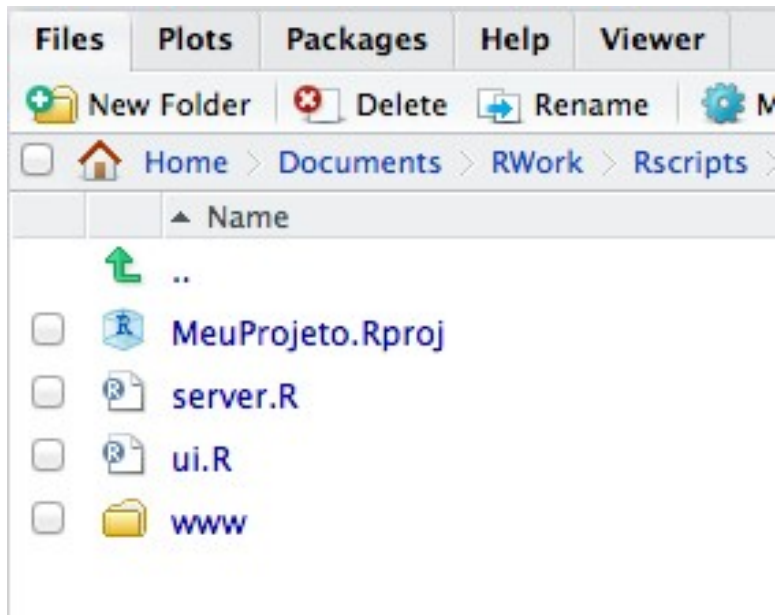
http://bootswatch.com/



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```
shinyUI(fluidPage(theme = "bootstrap.css",  
  headerPanel("New Application"),  
  sidebarPanel(  
    sliderInput("obs", "Number of observations:",  
      min = 1, max = 1000, value = 500)  
  ),  
  mainPanel(plotOutput("distPlot"))  
))
```