

R Products



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What can you make in R?

- .R scripts
- [R Markdown](#): reports/documents/[notebooks](#) (html/pdf/.doc)
- [R packages](#)
- [Shiny apps](#)
- [blogdown](#): blogs & websites
- [bookdown](#): books

Today we will focus on...

- .R scripts
- R Markdown: reports/documents/notebooks (html/pdf/.doc)
- **R packages**
- **Shiny apps**
- blogdown: blogs & websites
- bookdown: books

R Packages

R Packages: Why Make Them?

“It is about saving yourself time.” - [Hilary Parker](#)

“Anything that can be automated, should be automated. Do as little as possible by hand. Do as much possible with functions.” - [Hadley Wickham](#)

my_functions.R

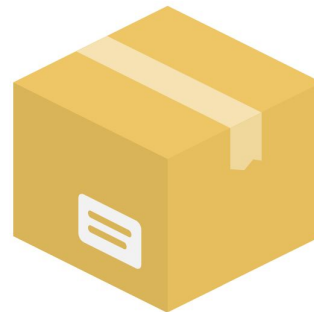
```
hello <- function(name){  
    return(paste0("hello ",name))  
}  
  
goodbye <- function(name){  
    return(paste0("bye ",name))  
}
```

my_functions.R

```
hello <- function(name){  
  return(paste0("hello ",name))  
}  
  
goodbye <- function(name){  
  return(paste0("bye ",name))  
}
```



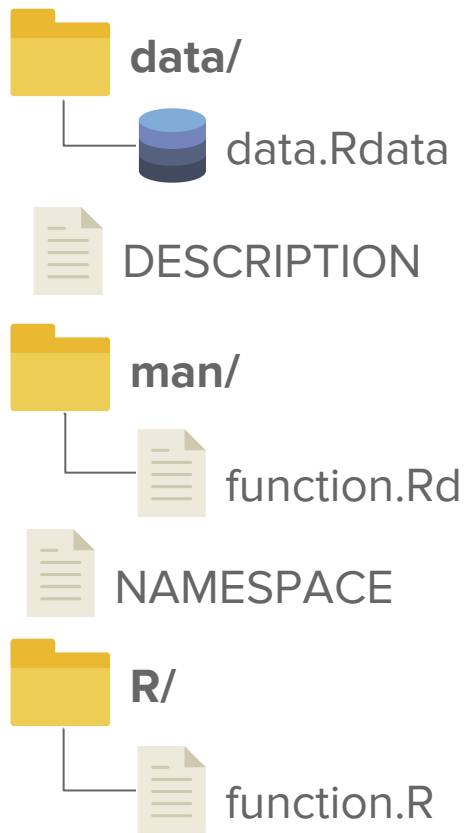
gReetings



```
gReetings::hello()
```

```
gReetings::goodbye()
```

R Packages: Structure



You can host R packages on...

- CRAN
- Bioconductor/Neuroconductor
- R-Forge
- GitHub

You can host R packages ***most easily*** on...

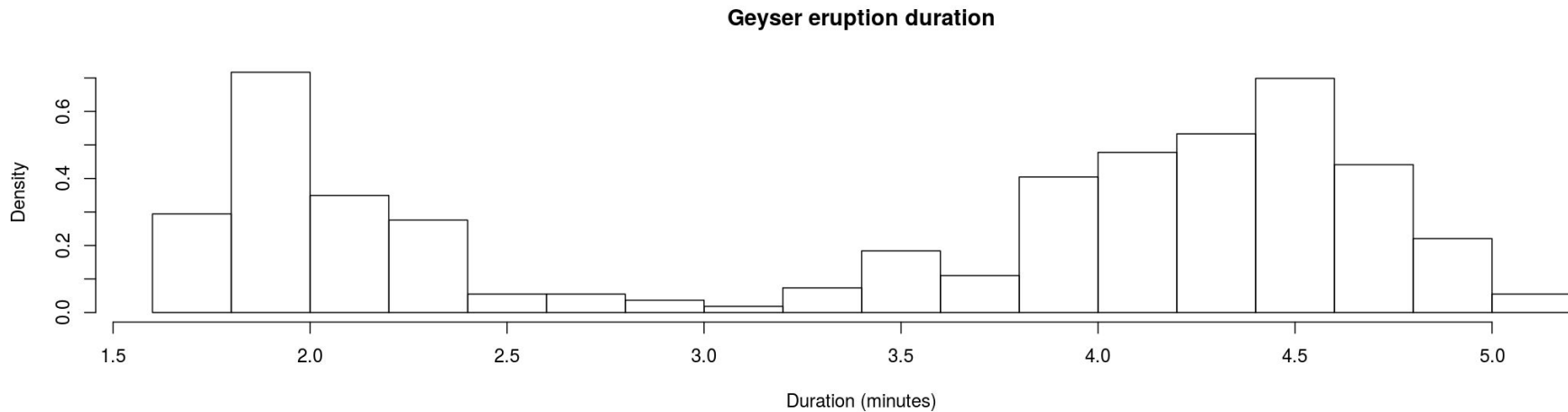
- CRAN
- Bioconductor/Neuroconductor
- R-Forge
- **GitHub**

 **Shiny Apps** 

Shiny Apps: What Are They?



Shiny Apps: What Are They?



Shiny Apps: What Are They?

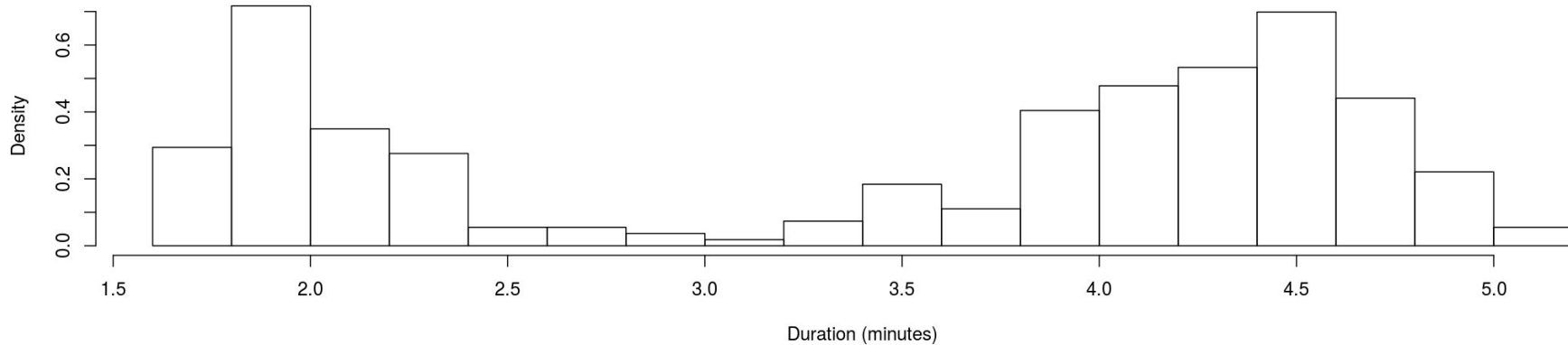
Number of bins in histogram (approximate):

20

☐ Show individual observations

☐ Show density estimate

Geyser eruption duration



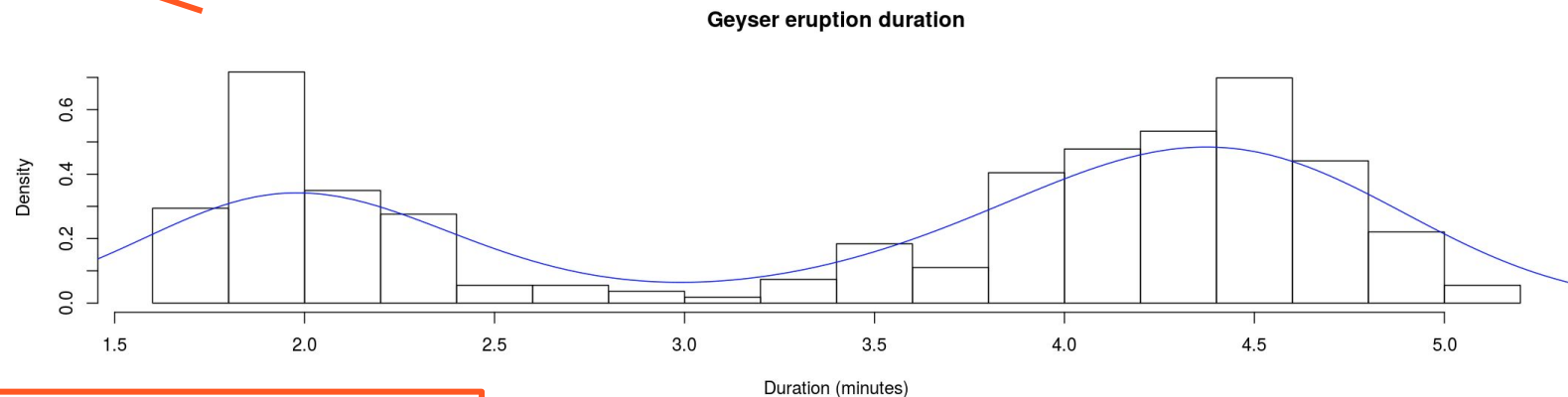
Shiny Apps: What Are They?

Number of bins in histogram (approximate):

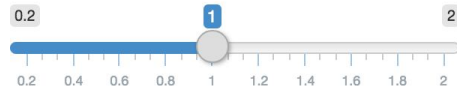
20

☐ Show individual observations

☒ Show density estimate



Bandwidth adjustment:



Shiny Apps: What Are They?

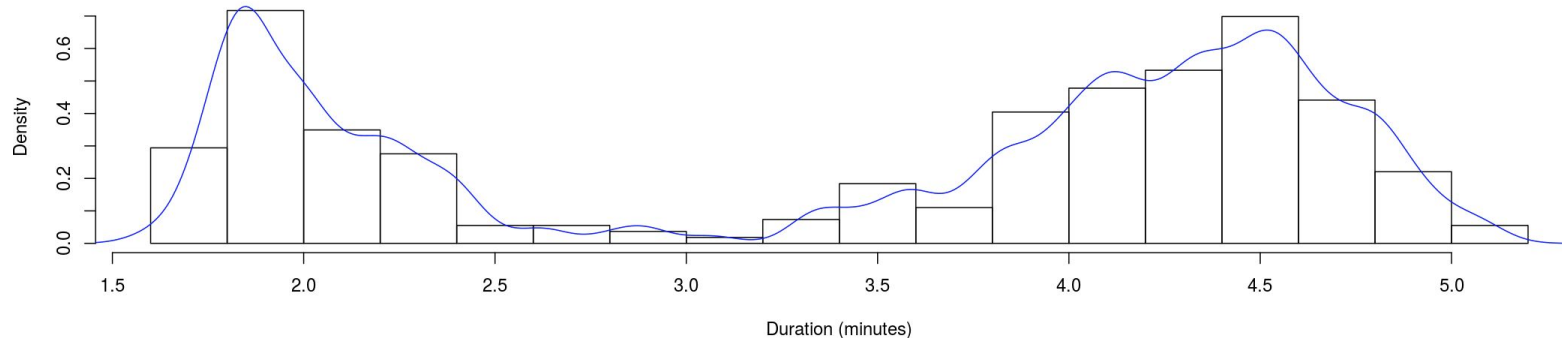
Number of bins in histogram (approximate):

20

☐ Show individual observations

☒ Show density estimate

Geyser eruption duration



Bandwidth adjustment:



ui.R

```
.....  
sidebarPanel(  
  checkboxInput(  
    "check",  
    "Select this",  
    FALSE)  
  ),  
  
mainPanel(  
  textOutput("response")  
)  
.....
```

server.R

```
.....  
  
output$response = renderText({  
  if(input$check == TRUE){ "Yes"  
  if(input$check == FALSE){ "No"  
  })  
  
.....
```

ui.R

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sidebarPanel(  
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    "Select this",  
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server.R

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  output$response = renderText({  
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    if(input$check == FALSE) {"No"}  
  })  
}  
  
.....
```



Some examples...

- [2017 GOP Tax Plan: “Grad Student” Tax](#)
- [Salaries of Stat/Biostat Professors](#)
- More in the [Shiny Gallery](#)

**Let's learn
by doing!**

[\(Start R Products Tutorial\)](#)