



BUILDING WEB APPLICATIONS IN R WITH SHINY

Layout panels

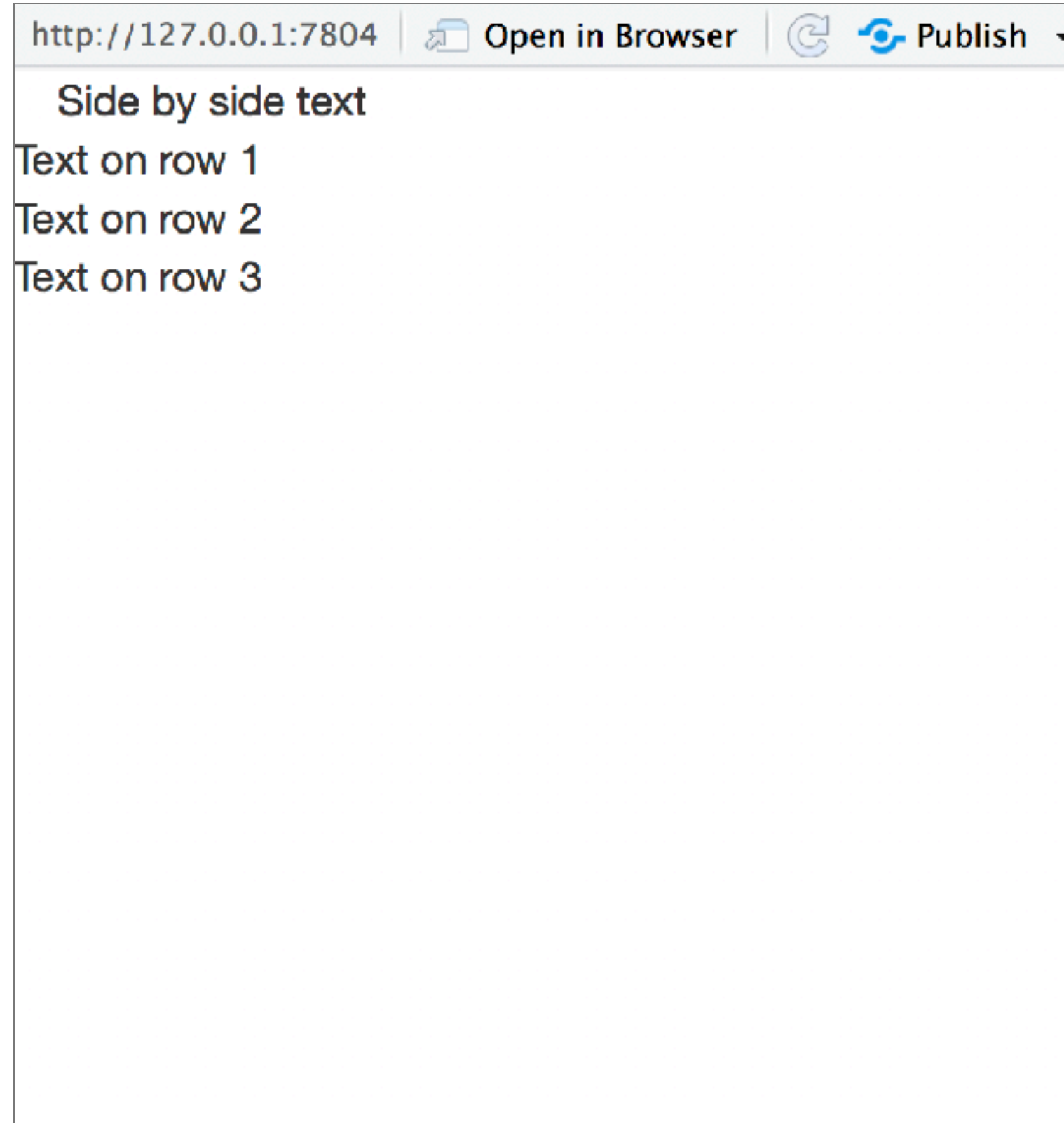
fluidrow()

```
library(shiny)

# Define UI with fluid rows
ui <- fluidPage(
  "Side", "by", "side", "text",
  fluidRow("Text on row 1"),
  fluidRow("Text on row 2"),
  fluidRow("Text on row 3")
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



column()

```
library(shiny)

# Define UI with fluid rows and columns
ui <- fluidPage(
  fluidRow(
    column("R1, C1, width = 3", width = 3),
    column("R1, C2, width = 9", width = 9)
  ),
  fluidRow(
    column("R2, C1, width = 4", width = 4),
    column("R2, C2, width = 4", width = 4),
    column("R2, C3, width = 4", width = 4)
  )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```

http://127.0.0.1:7804			Open in Browser		Publish
R1, C1, width = 3	R1, C2, width = 9				
R2, C1, width = 4	R2, C2, width = 4		R2, C3, width = 4		

column()

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R1, C1, width = 3	R1, C2, width = 9	
R2, C1, width = 4	R2, C2, width = 4	R2, C3, width = 4

$$3 + 9 = 12$$

$$4 + 4 + 4 = 12$$

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R1, C1, width = 3	R1, C2, width = 9	
R2, C1, width = 4	R2, C2, width = 4	R2, C3, width = 4

Panels

- Use panels to group multiple elements into a single element that has its own properties.
- Especially important and useful for complex apps with a large number of inputs and outputs such that it might not be clear to the user where to get started.

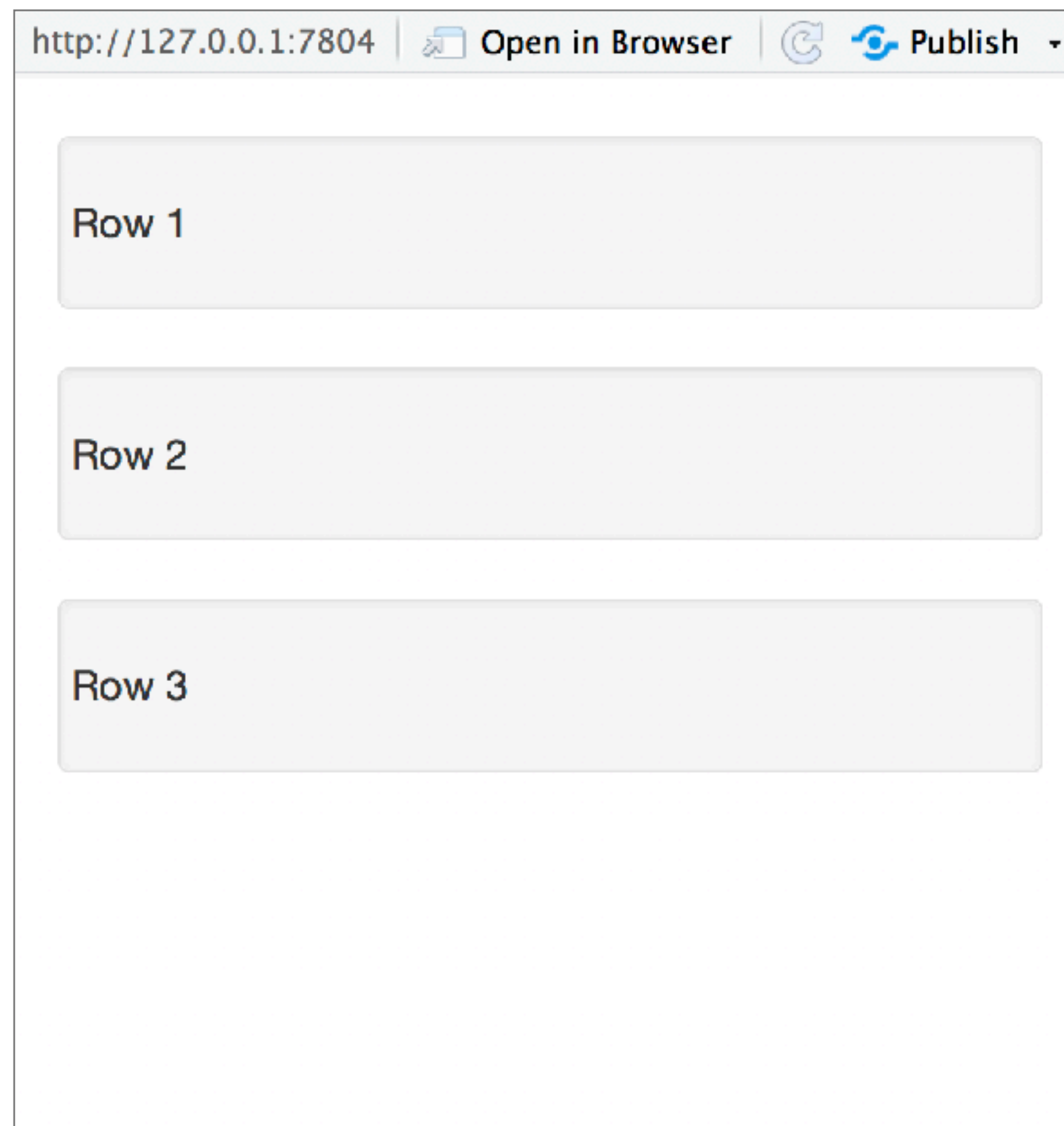
wellPanel()

```
library(shiny)

# Define UI with wellPanels
ui <- fluidPage(
  wellPanel( fluidRow("Row 1") ),
  wellPanel( fluidRow("Row 2") ),
  wellPanel( fluidRow("Row 3") )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



Panels

`absolutePanel(...)`

`fixedPanel(...)`

`conditionalPanel(...)`

`headerPanel(...)`

`mainPanel(...)`

`navlistPanel(...)`

`sidebarPanel(...)`

`tabPanel(...)`

`tabsetPanel(...)`

`titlePanel(...)`

`inputPanel(...)`

`wellPanel(...)`

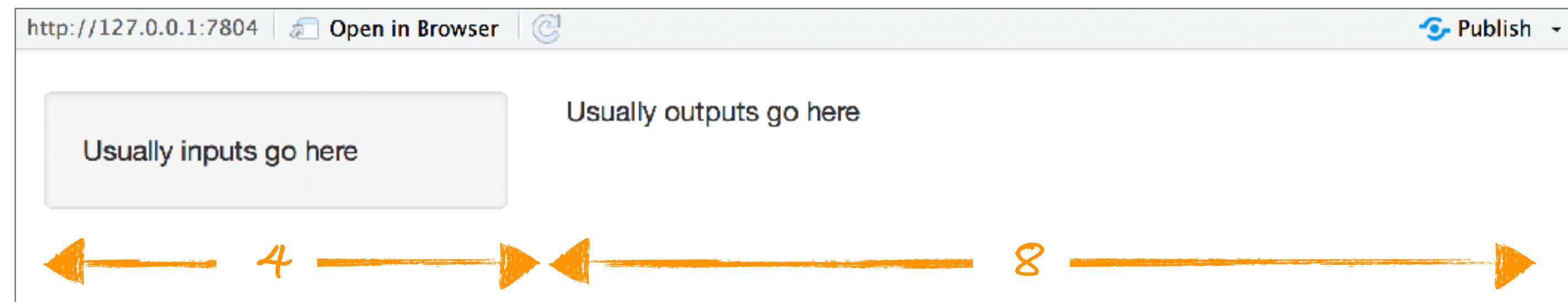
sidebarPanel() and mainPanel()

```
library(shiny)

# Define UI with default width sidebar
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel("Usually inputs go here"),
    mainPanel("Usually outputs go here")
  )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



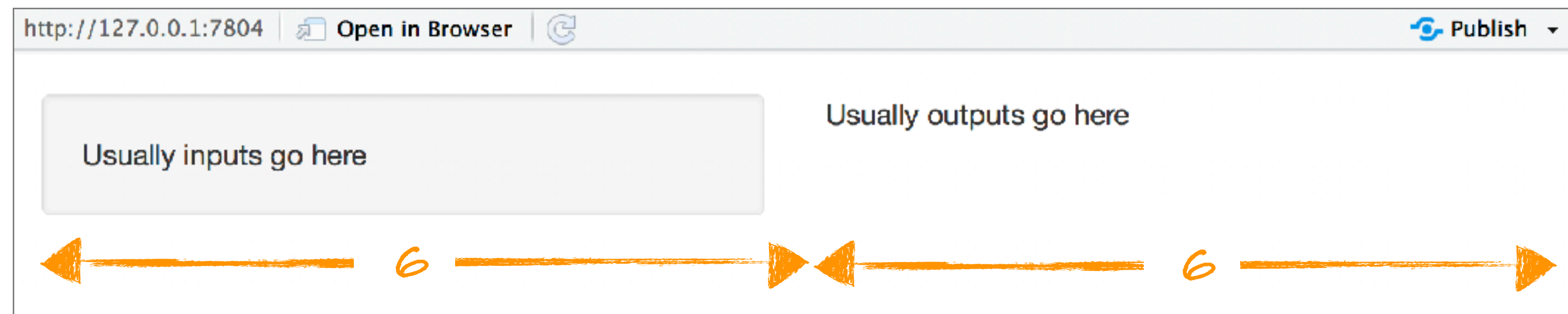
sidebarPanel() and mainPanel()

```
library(shiny)

# Define UI with custom width sidebar
ui <- fluidPage(
  sidebarLayout(
    sidebarPanel("Usually inputs go here",
                 width = 6),
    mainPanel("Usually outputs go here",
              width = 6)
  )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



titlePanel()

```
library(shiny)

# Define UI with title panel
ui <- fluidPage(
  titlePanel("My awesome app"),
  sidebarLayout(
    sidebarPanel("Some inputs"),
    mainPanel("Some outputs")
  )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



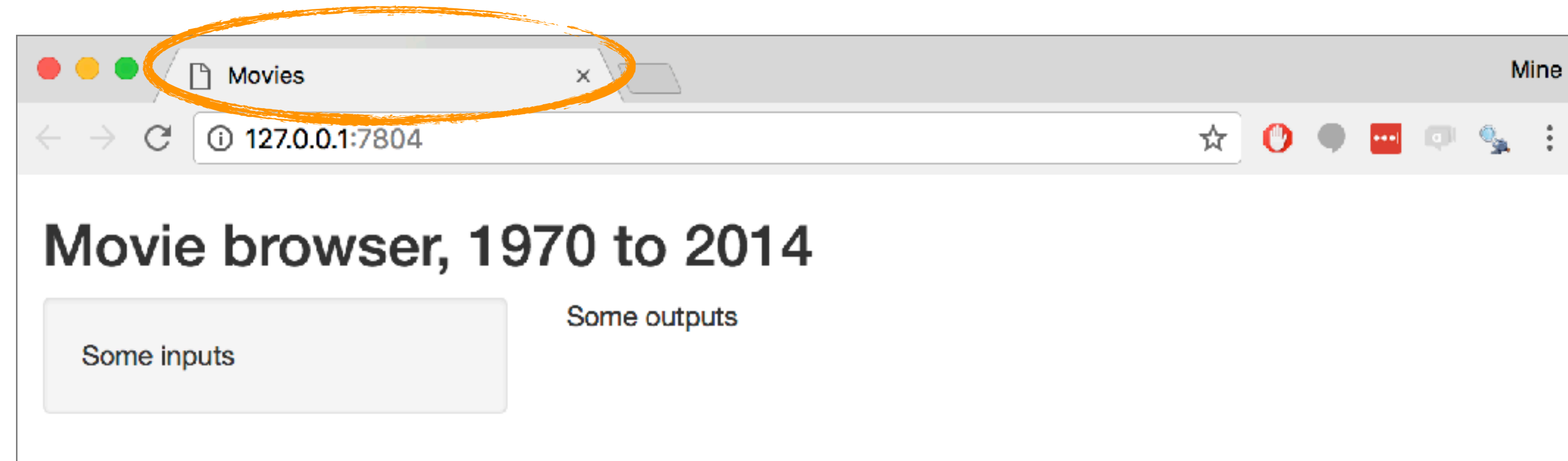
titlePanel() with windowTitle

```
library(shiny)



# Define UI with title panel
ui <- fluidPage(
  titlePanel("Movie browser, 1970 to 2014",
    windowTitle = "Movies"),
  sidebarLayout(
    sidebarPanel("Some inputs"),
    mainPanel("Some outputs")
  )
)

# Define server fn that does nothing :)
server <- function(input, output) {}

# Create the app object
shinyApp(ui = ui, server = server)
```



conditionalPanel()

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Random number generator

Number of digits:



any ▾

Generate new random number

Your random number is

21454

conditionalPanel()

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Random number generator

Number of digits:

any ▲

any

selected

Your random number is

9770637928

conditionalPanel()

http://127.0.0.1:7804 [Open in Browser](#) [Publish](#)

Random number generator

Number of digits:

selected ▼

How many digits?

1 4 10

1 2 3 4 5 6 7 8 9 10

Generate new random number

Your random number is

3239



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Let's practice!