

# Quarto 101

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## What is Quarto?



## Quarto allows you to

- Present your findings in R, Python, Julia, & Observable
- Use Revealjs (this presentation for example)
- Have images, videos, and iframe backgrounds imbedded in your documents

...

“Publish reproducible, production quality articles, presentations, dashboards, websites, blogs, and books in HTML, PDF, MS Word, ePub, and more.” - [quarto.org](https://quarto.org)

## Teaching with Quarto

```
# Set Parameters for Data Generation
set.seed(20242025) # For reproducibility

overlap <- 0.2
propmaj <- 0.85
sampsize <- 300
ndim <- 20
perc_cat <- 40
typemiss <- 'none'
amountmiss <- 0
```

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# Generate and Store Simulated Datasets
datasets_list <- list() # Initialize list to store datasets
```

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# Generate and Store Simulated Datasets
datasets_list <- list() # Initialize list to store datasets

for (i in 1:5) {
  set.seed(100 + i) # Different seed for each dataset to ensure variability

  # Generate datasets using the simtraindatfun function
  datasets <- simtraindatfun(
    overlap = overlap,
    propmaj = propmaj,
    sampsize = sampsize,
    ndim = ndim,
    perc_cat = perc_cat,
    typemiss = typemiss,
    amountmiss = amountmiss
  )

  # Store the generated datasets in the list with a unique name
  datasets_list[[paste0("Dataset_", i)]] <- datasets
}

```

## Use Tabsets in RevealJS/HTML

R

```

fizz_buzz <- function(fbnums = 1:50) {
  output <- dplyr::case_when(
    fbnums %% 15 == 0 ~ "FizzBuzz",
    fbnums %% 3 == 0 ~ "Fizz",
    fbnums %% 5 == 0 ~ "Buzz",
  )
}

```

```

    TRUE ~ as.character(fbnums)
  )
  print(output)
}

```

## Python

```

def fizz_buzz(num):
    if num % 15 == 0:
        print("FizzBuzz")
    elif num % 5 == 0:
        print("Buzz")
    elif num % 3 == 0:
        print("Fizz")
    else:
        print(num)

```

## Julia

```

function FizzBuzz(num)
    if num % 15 == 0
        println("FizzBuzz")
    elseif num % 5 == 0
        println("Buzz")
    elseif num % 3 == 0
        println("Fizz")
    else
        println(num)
    end
end
end

```

## ObservableJs

```

function fizzBuzz(num) {
    if (num % 15 === 0) {
        return "FizzBuzz";
    } else if (num % 5 === 0) {
        return "Buzz";
    }
}

```

```

} else if (num % 3 === 0) {
  return "Fizz";
} else {
  return num;
}
}

```

**Shiny apps? No problem!**

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**Serverless Shiny? Yep!**

```

#! '!! shinylive warning !!': |
#! shinylive does not work in self-contained HTML documents.
#! Please set `embed-resources: false` in your metadata.
#! standalone: true
#! viewerHeight: 650
import matplotlib.pyplot as plt
import numpy as np
from shiny.express import ui, input, render

with ui.sidebar():
  ui.input_slider("n", "N", 0, 100, 20)

@render.plot(alt="A histogram")
def histogram():
  np.random.seed(19680801)
  x = 100 + 15 * np.random.randn(437)
  plt.hist(x, input.n(), density=True)

```

**Wanna create a portfolio website?**

**Videos!**

[https://www.youtube.com/watch?v=\\_f3latmOhew&ab\\_channel=PositPBC](https://www.youtube.com/watch?v=_f3latmOhew&ab_channel=PositPBC)

## Wanna learn more?

...

Here are some pro tips before you jump into using quarto:

- Understand how github works (push/pull/commits)
- Learn and master how to use Rmarkdown
- Understand how to create shiny/interactive applications
- Then, jump into learning Quarto!

...

Wanna see everything that quarto's got to offer? Click on the quarto logo!



## References

<https://quarto.org/>

<https://quarto.org/docs/presentations/revealjs/>

<https://quarto.org/docs/presentations/revealjs/advanced.html>

<https://quarto.org/docs/authoring/markdown-basics.html>