

```
library(tidyverse)
```

```
rladies_global %>%  
  filter(city == 'San Diego')
```

aRt with R



Hello!

I'm Viola.



Let's do something creative with R.
You can find me at [@violadoesdata](https://twitter.com/violadoesdata).



After today you'll be able to use code to turn photos and text into aRt in seconds!

“I deserve this! ”

—Megan Rapinoe

A dense, abstract word cloud composed of various text fragments related to the quote, such as "deserve", "this", "serve", and "serve this". The text is rendered in a variety of colors including purple, blue, red, green, and yellow, creating a vibrant and dynamic visual effect.



But more importantly, you'll also...

- Be empowered to leverage from online tutorials and guides to your work
- Have built a custom function with parameters in R to easily tweak and experiment w/ our project
- Stretch your concept of what R (and any language) can do



1.

Imitation is the sincerest form of flattery.

Or, “Someone has probably already done this.”



Find tutorial authors that you love.
And copy them.



BLOG COMICS ABOUT

I, too, wish there was
an oxford comma



SEX, DRUGS, AND DATA

WHERE NO DATA SCIENTIST HAS GONE BEFORE.

READ MY FACE

DRAWING PORTRAITS WITH TEXT

PUBLISHED SUN, JUL 9, 2017 BY GIORA SIMCHONI



Recently I've seen some interesting posts showing how to make ASCII art in R (see [here](#) and [here](#)). Why limit ourselves to ASCII, I thought. Lincoln's portrait could be drawn with the Gettysberg Address instead of commas and semicolons. And Trump's portrait really deserves his tweets¹.

Lincoln/Gettysberg

Let's load Lincoln's image using the `imager` package. I'll resize it because it's huge, and convert it to grayscale:

```
library(tidyverse)
library(stringr)
library(imager)
library(abind)

img <- load.image("C:/SDAD_materials/lincoln.jpg") %>%
  resize(700, 500) %>%
  grayscale()

plot(img)
```



2.

But first, we must prepare.



Before we dive in, you'll need

- **Code:**
 - `github.com/rjladies/meetup-presentations_sandiego`
- **Packages**
 - `imager` can be tricky with Macs
- **Image**
 - Strong, bold lines and very little background
 - Try Googling "Rapinoe no background"
 - It'll take some trial & error, so we'll make it a function
- **Text**
 - Song lyrics, poems, quotes, book chapters
 - Long or short

A close-up, profile photograph of a cat's head and upper body. The cat has a light brown or tan coat with dark stripes and a white patch on its ear. It is looking towards the right of the frame.

Run SET UP
section of code
together



3.

Conceptual model.

Or, “How to talk to your computer so it will listen.”

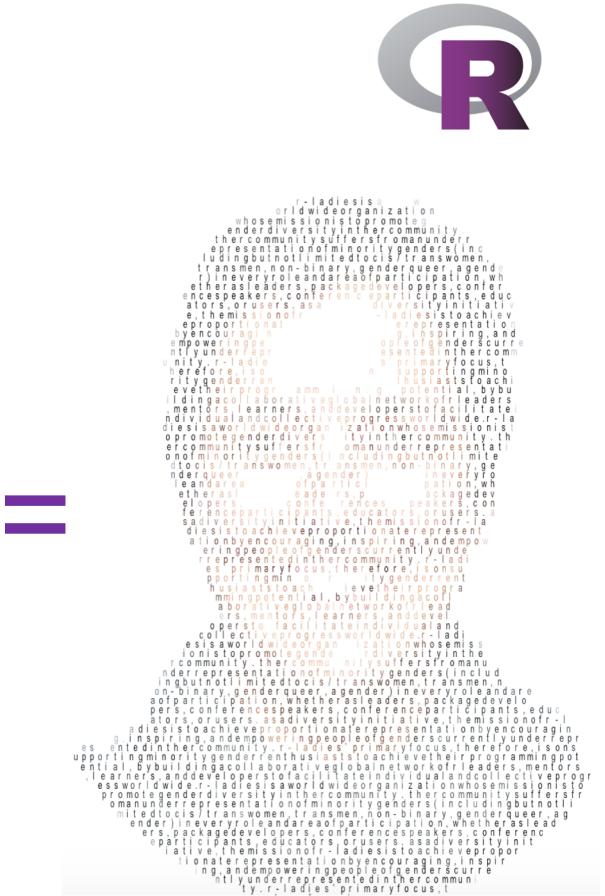
An image, recreated, using words I selected.

MISSION

R-LADIES IS A WORLDWIDE ORGANIZATION WHOSE MISSION IS TO PROMOTE GENDER DIVERSITY IN THE R COMMUNITY.

The R community suffers from an underrepresentation of minority genders (including but not limited to cis/trans women, trans men, non-binary, genderqueer, agender) in every role and area of participation, whether as leaders, package developers, conference speakers, conference participants, educators, or users ([see recent stats](#)).

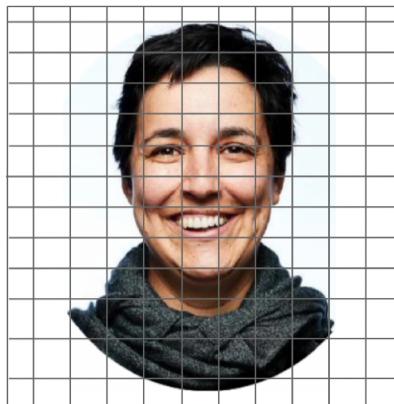
As a diversity initiative, the mission of R-Ladies is to achieve proportionate representation by encouraging, inspiring, and empowering people of genders currently underrepresented in the R community. R-Ladies' primary focus, therefore, is on supporting minority gender R enthusiasts to achieve their programming potential, by building a collaborative global network of R leaders, mentors, learners, and developers to facilitate individual and collective progress worldwide.





Translating for your computer.

Picture is transformed into a **matrix[i,j]**, with each cell dictating the **color** and **placement**.

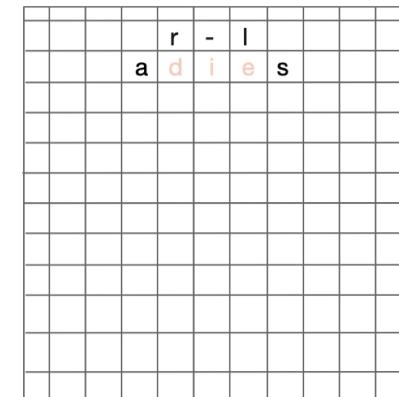


Text is broken into individual **letters**, which will be mapped to cells on the matrix.

```
> text
[1] "r"   "-"   "l"   "a"   "d"   "i"
[7] "e"   "s"   " "   "i"   "s"   " "
[13] "a"   " "   "w"   "o"   "r"   "l"
[19] "d"   "w"   "i"   "d"   "e"   " "
[25] "o"   "r"   "g"   "a"   "n"   "i"
[31] "z"   "a"   "t"   "i"   "o"   "n"
```



Color, placement, and letters are combined to create a new image.





4. Loops

Or, “We’re not supposed to do this with R, but we’re going to anyway.”

A close-up, profile photograph of a fluffy, light-colored cat's head and upper body. The cat is facing right, showing its green eye and whiskers. The background is plain white.

Run THE BASICS
section of code
together



5.

Custom Functions

Or, “If you’ve copied & pasted the same code twice, **write a function.**”



Run **COLORS!**
FUNCTIONS!
section of code
together



6.

Closing Thoughts

Or, “You don’t have to go home, but you can’t stay here.”



Got the bug and want more?

Make our *drawImageWithText()* function better ❤

- Make the spacing better. Why does community still look weird?
- Add a background color
- Make specific words bold

Empower others by sharing your work ❤

- Push a PR to the github repo with improvements
 - (or just email it to me and I can push it for you)
- Post your images to @RLadiesSanDiego on Twitter, FB



thank you

@violadoesdata



Join us next month!

THU, SEP 26, 6:30 PM

R for Beginners

📍 Hera Hub Sorrento Valley



Hey everyone, Let's join Elke as she presents an amazing tutorial on how to get started with R. If you consider yourself a beginner, this is your chance to hit the ground running. If you already have experience using R, please come anyway!