

Code a Valentine!

International Love Data Week

2025-02-11

This document contains instructions for creating images for a valentine or art using R code. We have lots of helper here to walk you through how to run and modify the code. Please raise your hand if you need help!

You should experiment and get creative with all of the options before deciding which one to include on your Valentine's card. Each option includes an example and then a place for you to modify the code and create something that is unique to you!

But First: How to Run and Modify Code!

The following gray box is called an **R chunk**:

XXX Include instructions on running code.

Option 1: Heart of Hearts!

Example

Run the following code to create a heart of hearts.

```
# Load packages
library(tidyverse)

-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr     1.1.4      v readr     2.1.5
v forcats   1.0.0      v stringr   1.5.1
v ggplot2   3.5.1      v tibble    3.2.1
v lubridate 1.9.3      v tidyr    1.3.1
```

```
v purrr      1.0.2
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to beco
```

```
library(emojifont)

# Ensure the exported images are the same size in the Plots window
library(showtext)
```

```
Loading required package: sysfonts
Loading required package: showtextdb
```

```
showtext_opts(dpi = 500)

# Add more font options
font_add_google("Merriweather")
font_add_google("Lora")

# Generate dataset with heart coordinates
heart_x <- function(angle) {
  x <- (16 * sin(angle) ^ 3) / 17
  return(x - mean(x))
}

heart_y <- function(angle) {
  y <- (13 * cos(angle) - 5 * cos(2 * angle) - 2 * cos(3 * angle) -
        cos(4 * angle)) / 17
  return(y - mean(y))
}

heart_data <- tibble(
  angle = seq(0, 2 * pi, length.out = 50),
  x = heart_x(angle),
  y = heart_y(angle)
) %>%
  mutate(heart = fontawesome("fa-heart"))
```

```

#####
# Experiment with these items
#####
# Try changing the colors
color_heart = sample(c("deeppink", "purple3", "red3"),
                     size = 50, replace = TRUE)
color_text = "deeppink3"
# Add your valentine's name
valentines_name = "Dad!"

# Play around with the size of the hearts
heart_size = 18

# Make the hearts more or less opaque
how_opaque = 0.6

# Font
font_writing <- "Lora"

# Font size
font_size = 15

#####

# Graph the hearts and name of valentine
ggplot(data = heart_data,
        mapping = aes(x = x, y = y,
                      label = heart)) +
  geom_text(alpha = how_opaque, color = color_heart,
            family = 'fontawesome-webfont',
            size = heart_size) +
  theme_void() +
  annotate("text", x = 0, y = 0,
           label = "Happy Valentine's Day,", size = font_size,
           color = color_text,
           family = font_writing) +
  annotate("text", x = 0, y = -0.25, label = valentines_name,
           size = font_size, color = color_text,
           family = font_writing)

```



```
ggsave("option1_example.png", dpi = 500)
```

Saving 5.5 x 3.5 in image

Your turn!

XXX

Option 2

```
# Graph the hearts and name of valentine
ggplot(data = heart_data,
        mapping = aes(x = x, y = y,
                      label = heart)) +
  geom_polygon(fill = "deeppink1", show.legend = FALSE,
               color = "deeppink3", size = 2) +
  coord_equal() +
  annotate("text", x = 0, y = 0.15,
           label = "Happy Valentine's Day", size = 12,
           color = "white") +
```

```
annotate("text", x = 0, y = -0.15, label = valentines_name,  
       size = 12, color = "white") +  
theme_void()
```

Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
i Please use `linewidth` instead.



```
ggsave("option2_example.png", dpi = 500)
```

Saving 5.5 x 3.5 in image

Testing

https://blog.djnavarro.net/posts/2021-10-19_rtistry-posts/

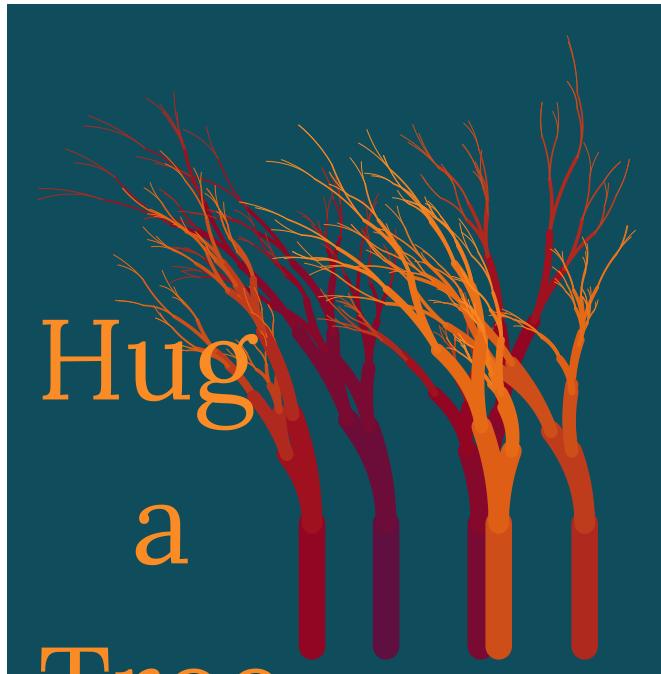
```
library(flametree)  
  
# pick some colours  
shades <- c("#5F0F40", "#9A031E", "#E36414", "#FB8B24")
```

```

# data structure defining the trees
dat <- flametree_grow(seed = 8,
                      time = 6,
                      trees = 5)

# draw the plot
dat %>%
  flametree_plot(
    background = "#0F4C5C",
    palette = shades
  ) +
  annotate("text", x = -2.5, y = 1,
           label = "Hug\n a\n Tree",
           size = 15, color = "#FB8B24",
           family = font_writing)

```

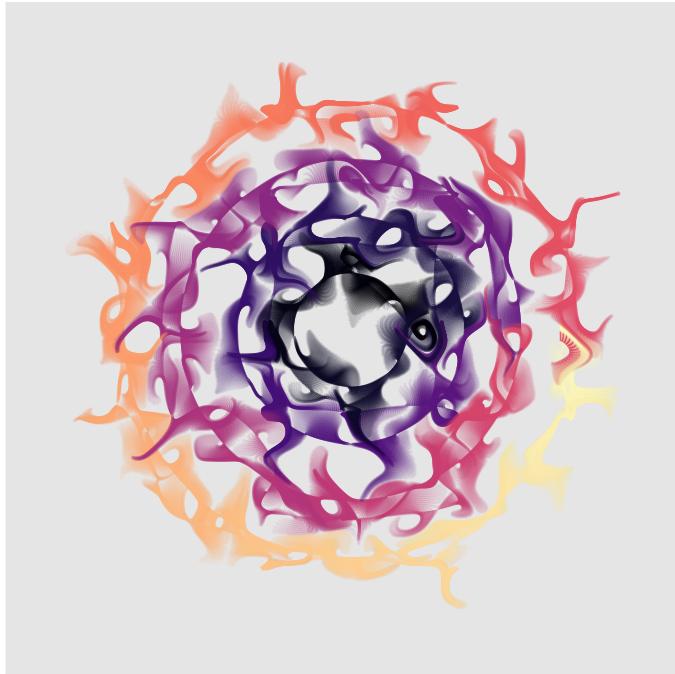


```
ggsave("option3_example.png", dpi = 500)
```

Saving 5.5 x 3.5 in image

<https://jasmines.djnavarro.net/>

```
library(jasmipes)
use_seed(4) %>%
  scene_discs(
    rings = 4, points = 5000, size = 6
  ) %>%
  mutate(ind = 1:n()) %>%
  unfold_warp(
    iterations = 1,
    scale = .5,
    output = "layer"
  ) %>%
  unfold_tempest(
    iterations = 20,
    scale = .011
  ) %>%
  style_ribbon(
    palette = "magma",
    colour = "ind",
    alpha = c(.5,.1),
    background = "gray90"
  )
```



```
ggsave("option4_example.png", dpi = 500)
```

Saving 5.5 x 3.5 in image

```
library(jasmynes)
use_seed(10) %>%
  scene_discs(
    rings = 3, points = 5000, size = 5
  ) %>%
  mutate(ind = 1:n()) %>%
  unfold_warp(
    iterations = 1,
    scale = .5,
    output = "layer"
  ) %>%
  unfold_tempest(
    iterations = 20,
    scale = .01
  ) %>%
  style_ribbon(
    palette = palette_named("vik"),
    colour = "ind",
    alpha = c(.1,.1),
    background = "oldlace"
  )
```

