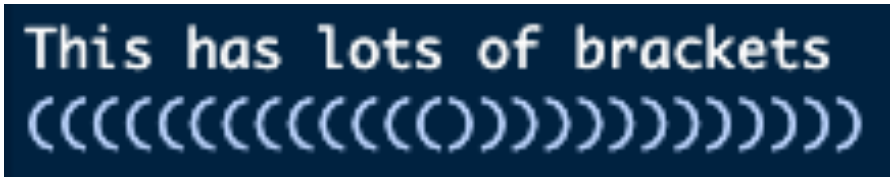
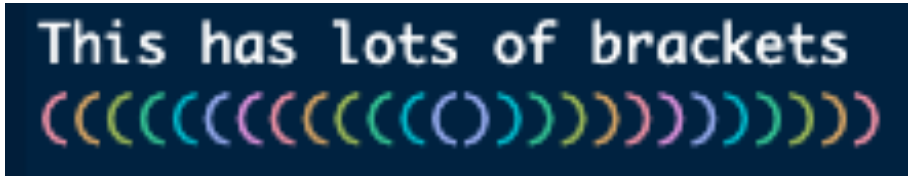
Rainbows

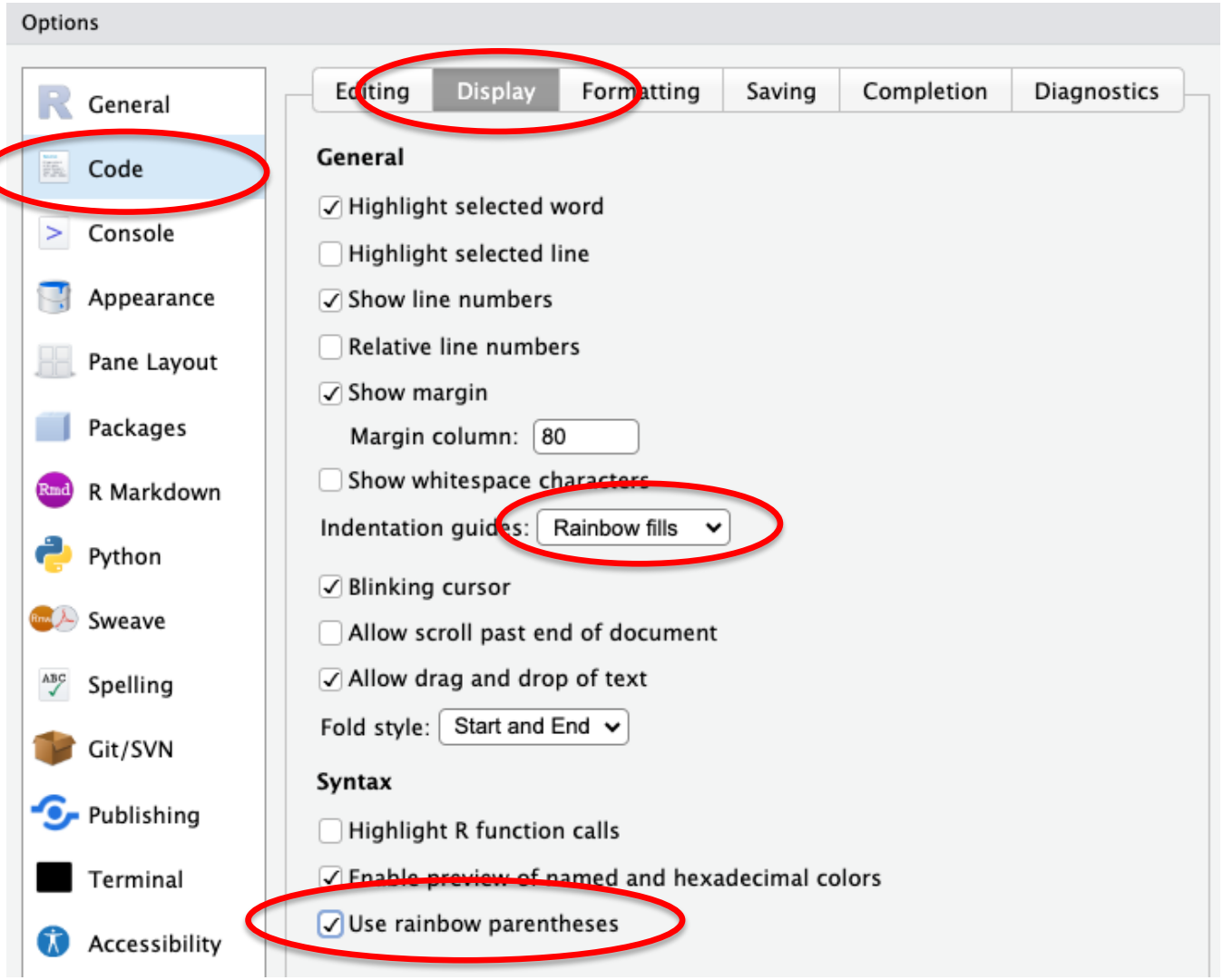

This has lots of brackets
((((((((((((()))))))))))))


This has lots of brackets
((((((((((((()))))))))))))


This
has
lots
of
tabs


This
has
lots
of
tabs
that
are
each
coloured

Rainbows


Options
General
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R Markdown
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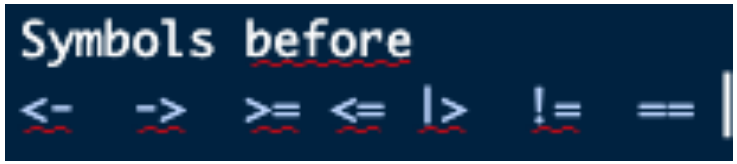
General
Highlight selected word
Highlight selected line
Show line numbers
Relative line numbers
Show margin
Margin column: 80
Show whitespace characters
Indentation guides: Rainbow fills
Blinking cursor
Allow scroll past end of document
Allow drag and drop of text
Fold style: Start and End
Syntax
Highlight R function calls
Enable preview of named and hexadecimal colors
Use rainbow parentheses

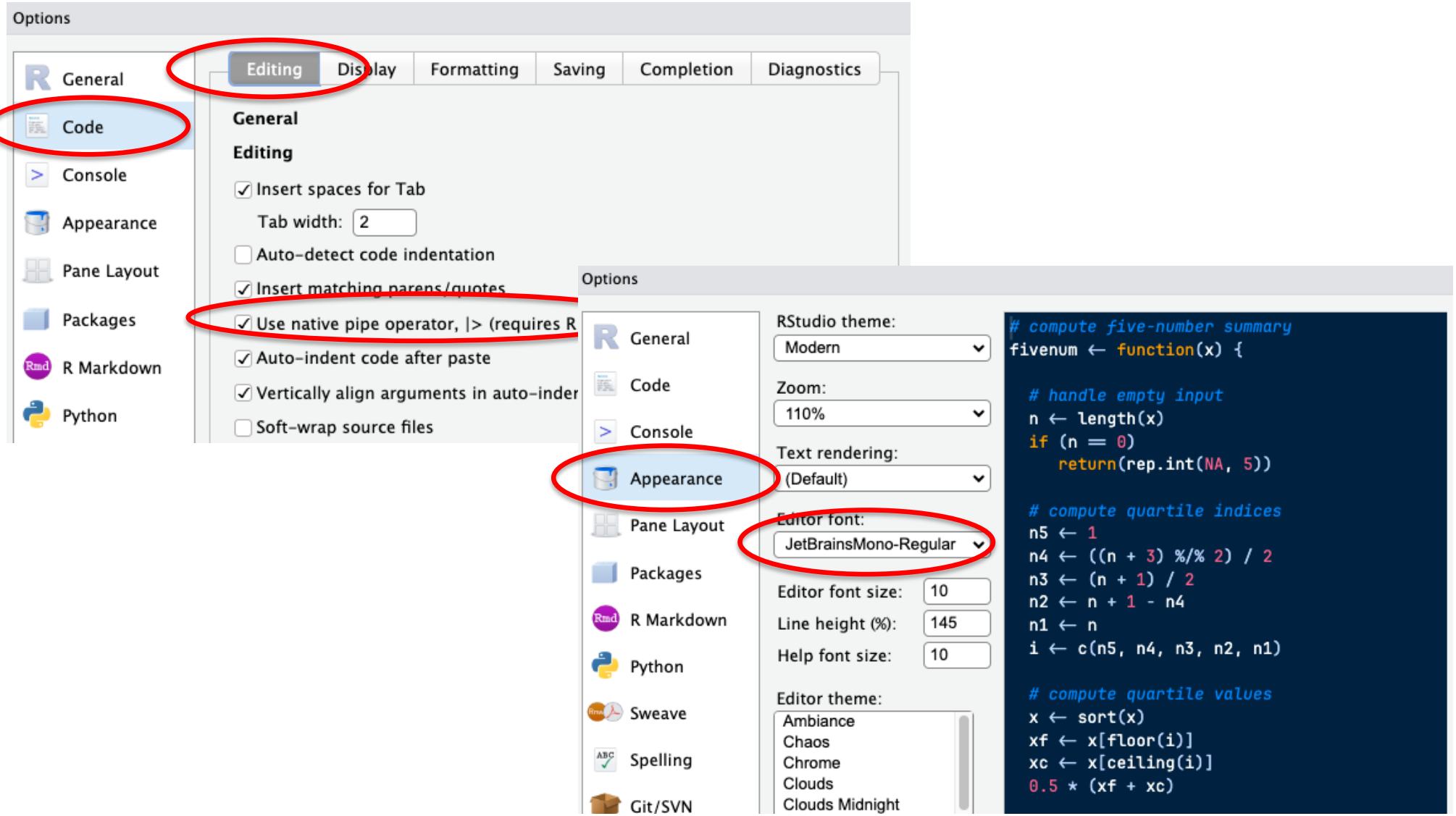
Connected Symbols



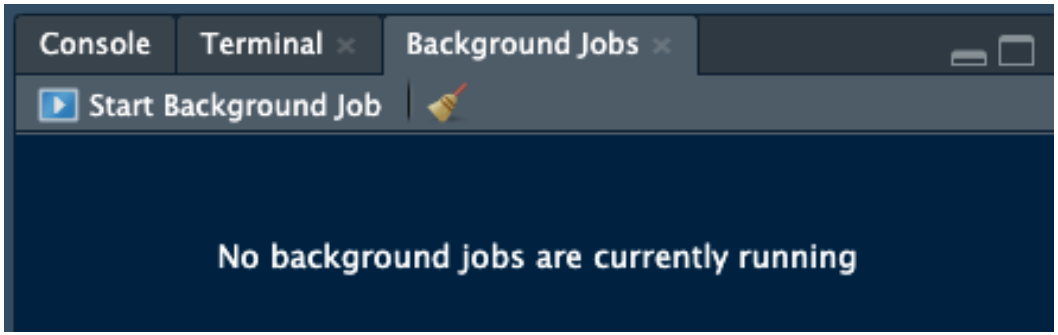
Install font: ‘FiraCode-Regular’
https://github.com/tonsky/FiraCode

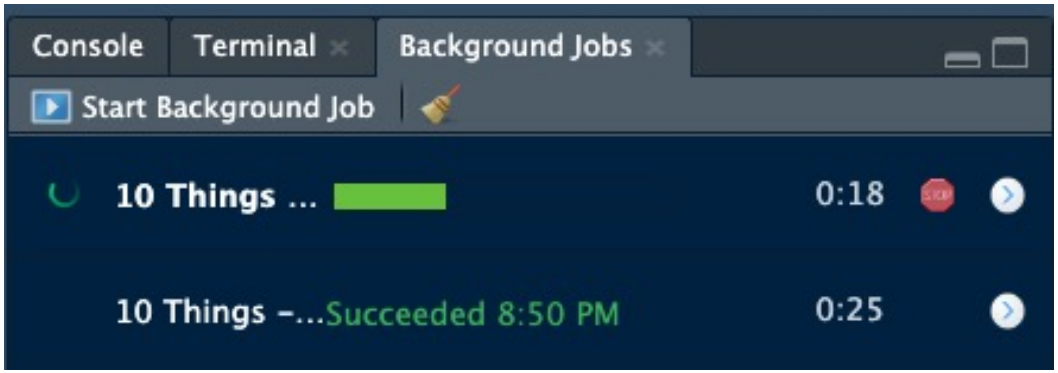
Install font: ‘JetBrainsMono-Regular’
https://www.jetbrains.com/lp/mono/

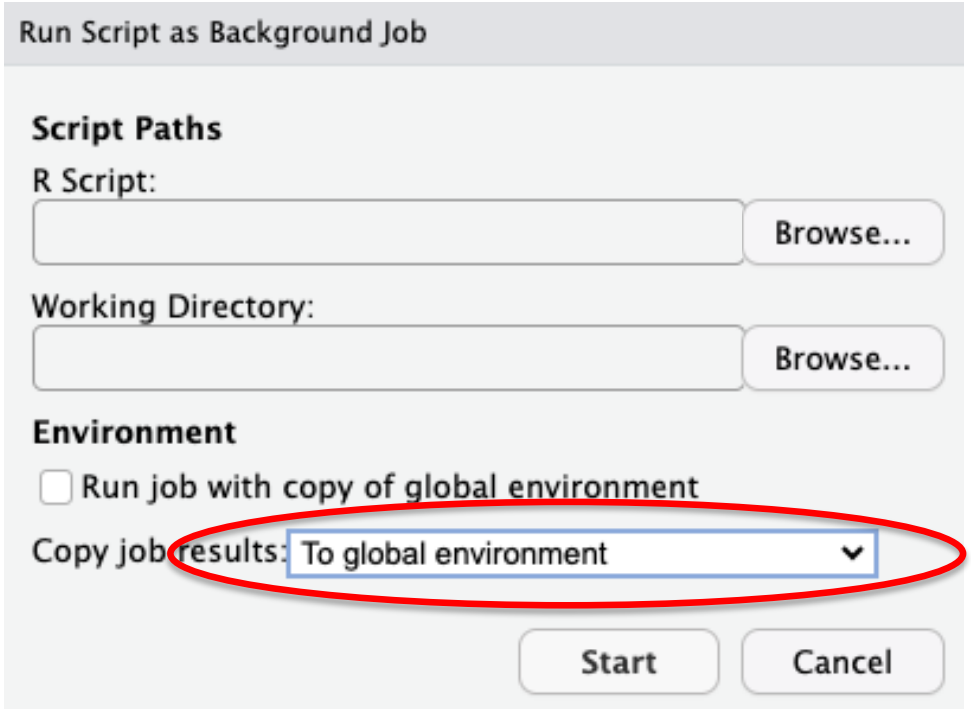
Connected Symbols



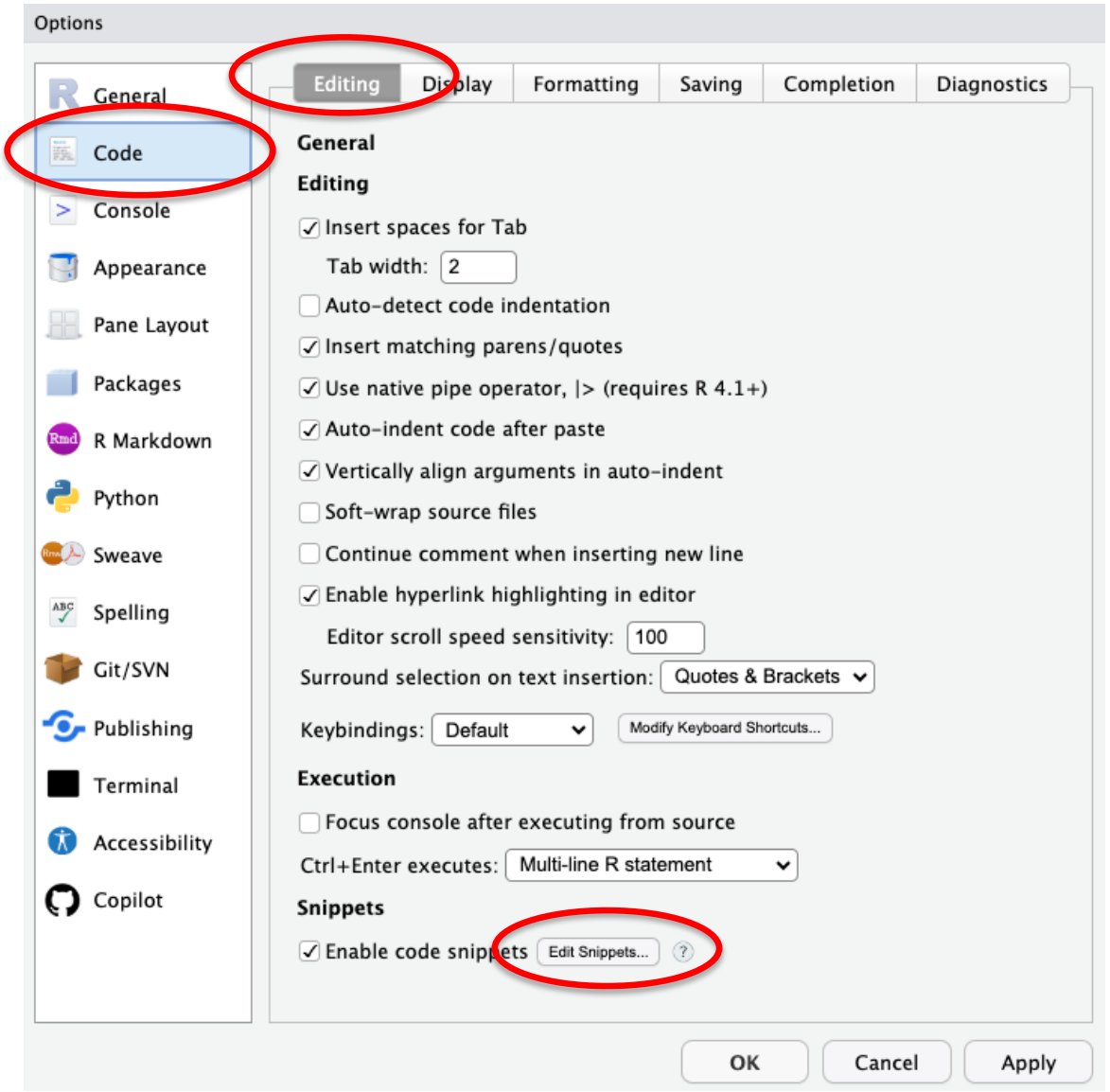
Background Jobs







Snippets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Accessibility
Copilot
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Formatting
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Diagnostics
General
Editing
Insert spaces for Tab
Tab width: 2
Auto-detect code indentation
Insert matching parens/quotes
Use native pipe operator, |> (requires R 4.1+)
Auto-indent code after paste
Vertically align arguments in auto-indent
Soft-wrap source files
Continue comment when inserting new line
Enable hyperlink highlighting in editor
Editor scroll speed sensitivity: 100
Surround selection on text insertion: Quotes & Brackets
Keybindings: Default
Modify Keyboard Shortcuts...
Execution
Focus console after executing from source
Ctrl+Enter executes: Multi-line R statement
Snippets
Enable code snippets
Edit Snippets...
OK
Cancel
Apply

Snippets


```
snippet dplyr
  dplyr::

snippet mutate
  dplyr::mutate(${1})

snippet filter
  dplyr::filter(${1})

snippet select
  dplyr::select(${1})

snippet drop
  tidyr::drop_na(${1})

snippet distinct
  dplyr::distinct(${1})

snippet pivot_wider
  tidyr::pivot_wider(id_cols = ${1:vector_of_col_names},
                     names_from = ${2:column_name},
                     values_from = ${3:vector_name})

snippet pivot_longer
  tidyr::pivot_longer(cols = ${1:vector_of_col_names},
                      names_to = "${2:column_name}",
                      values_to = "${3:column_name}")
```

Git Version Control

Git was created in 2005 by Linus Torvalds. He writes....

git can mean anything, depending on your mood.....

- random three-letter combination that is pronounceable, and not actually used by any common UNIX command. The fact that it is a mispronunciation of **get** may or may not be relevant.

- stupid. contemptible and despicable. simple. Take your pick from the dictionary of slang

- "**g**lobal **i**nformation **t**racker": you're in a good mood, and it actually works for you. Angels sing, and a light suddenly fills the room

- "**g**oddamn **i**diotic **t**ruckload of sh*t": when it breaks

This is a stupid (but extremely fast) directory content manager. It doesn't do a whole lot, but what it **does** do is track directory contents efficiently.

Git Version Control

Git Version Control using RStudio

Introduction | Stage 1 | 2 | 3 | 4 | 5

Version control software is a tool to use when you write code.

As its most basic level, it lets you capture snapshots of your progress, along with any commentary notes you want to record about the development you've done so far and why you've done it that way.

It keeps a record of all of the changes to individual lines of code, so you can easily see what changed between snapshots. These snapshots are called 'commits' and can be seen as stepping stones along the journey you take with your code. You can use version control to branch off in new directions as well as retrace your steps to an earlier commit from your journey.

The gains from using version control with a good workflow is that it will streamline working with your most important collaborator: Future You!

This document aims to gradually introduce you to using version control software with RStudio, over several stages:

Stage 1 - The basics

Stage 2 - Setup Local Version Control in RStudio

Stage 3 - Commits

Stage 4 - Reverts

Stage 5 - Branching

github.com/NevilHopley/tenthings

List input now controls graphical output
5754dd0b SQAnevilhopley 14 Nov 2024 at 18:48

ui.R now has select from list input
19de3da4 SQAnevilhopley 14 Nov 2024 at 18:46

Slider now controls graphical output
f26cd9e3 SQAnevilhopley 14 Nov 2024 at 18:38

ui.R now has slider input
5a9b3b09 SQAnevilhopley 14 Nov 2024 at 18:35

Radio button now controls graphical output
566d760d SQAnevilhopley 14 Nov 2024 at 17:00

ui.R now has radio button selector
57574f80 SQAnevilhopley 14 Nov 2024 at 16:04

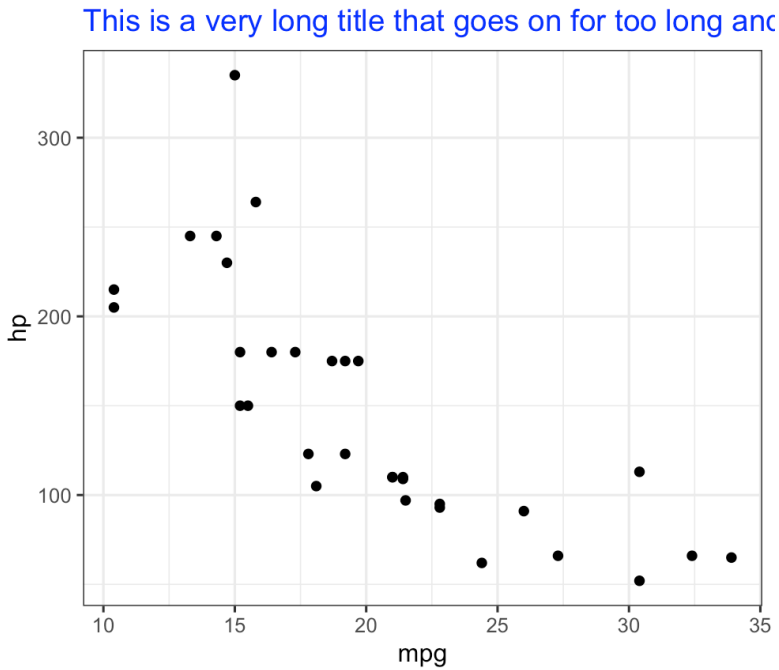
Initial starting position - blank Shiny App, with s...
9dbd5ae5 SQAnevilhopley 14 Nov 2024 at 15:51

server.R -1+2
/app/server.R

View

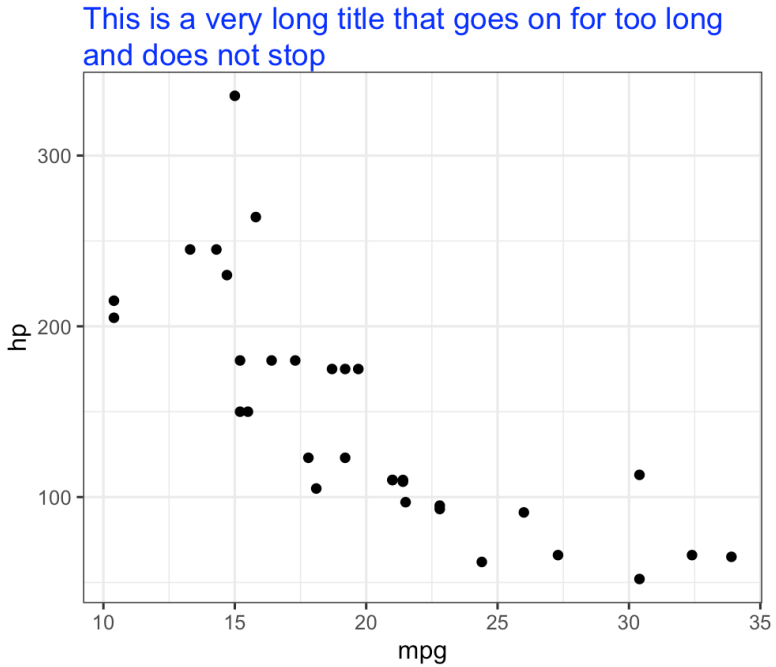
```
7         # whilst `df` exists in the global environment
8         df_plot = df |>
9           filter(level == input$level &
-                    year %in% input$year_range[1]:input$year_range[2])
10        +         year %in% input$year_range[1]:input$year_range[2] &
11        +         subject %in% input$subjects)
12
13        # generate ggplot object
14        ggplot(data = df_plot,
```

Titles and Legends




```
ggplot2::ggplot(data = mtcars,
                mapping = ggplot2::aes(x = mpg,
                                       y = hp)) +
  ggplot2::geom_point() +
  ggplot2::theme_bw() +
  ggplot2::labs(title = "This is a very long title that goes on for too long and does not stop") +
  ggplot2::theme(plot.title = ggplot2::element_text(colour = "blue"))
```

Titles and Legends



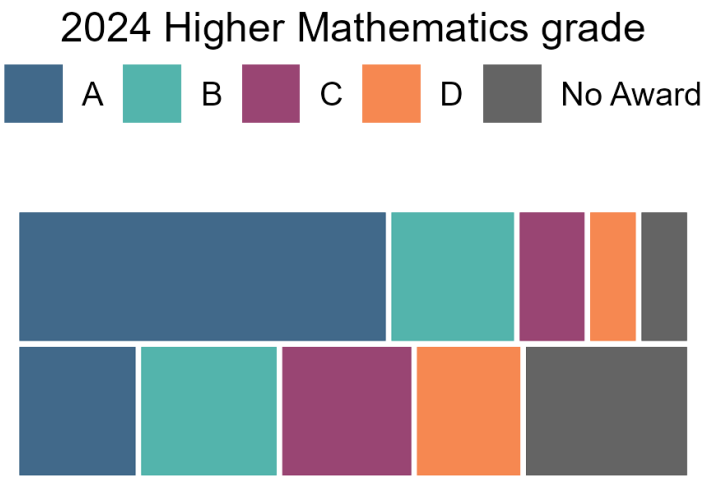

```
ggplot2::ggplot(data = mtcars,
                mapping = ggplot2::aes(x = mpg,
                                       y = hp)) +
  ggplot2::geom_point() +
  ggplot2::theme_bw() +
  ggplot2::labs(title = "This is a very long title that goes on for too long and does not stop") +
  ggplot2::theme(plot.title = ggtext::element_textbox_simple(colour = "blue"))
```

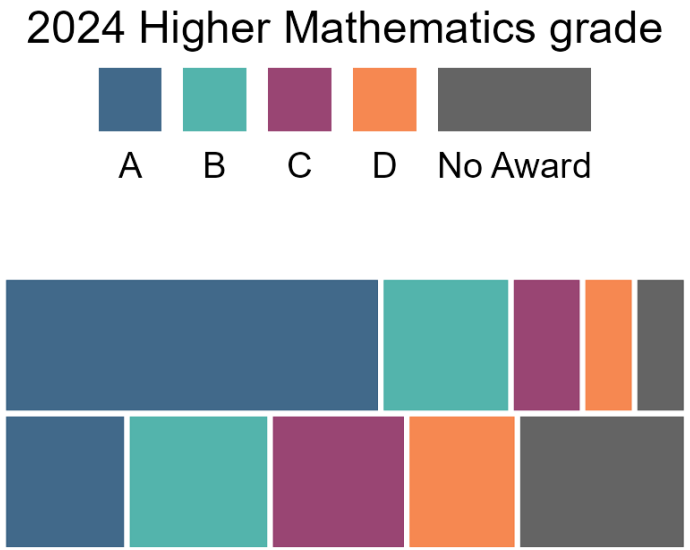
2024 Higher Mathematics grade

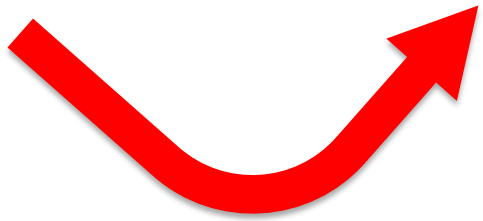
A B C D No Award

2024 Higher Mathematics grade

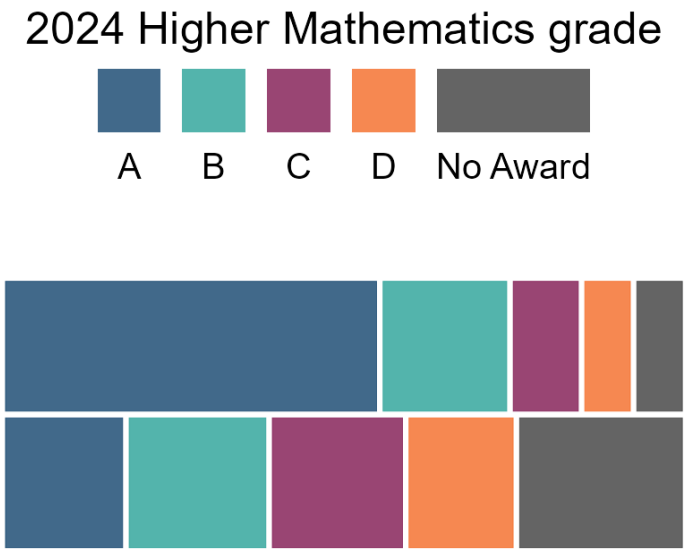
A B C D No Award

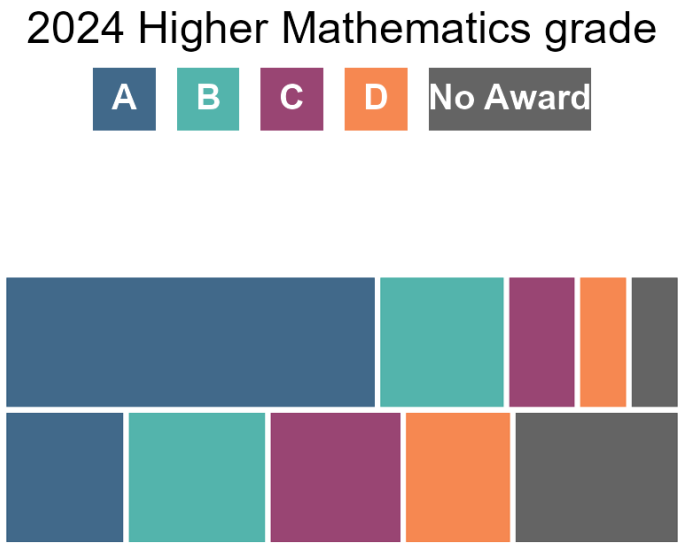






```
legend.text.position = "bottom",
```





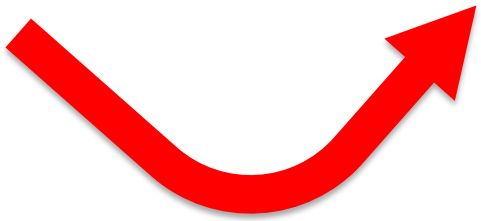

```
legend.text = ggplot2::element_text(colour = "white",
                                    vjust = 10.5,
                                    face = "bold"),
```

2024 Higher Mathematics grade

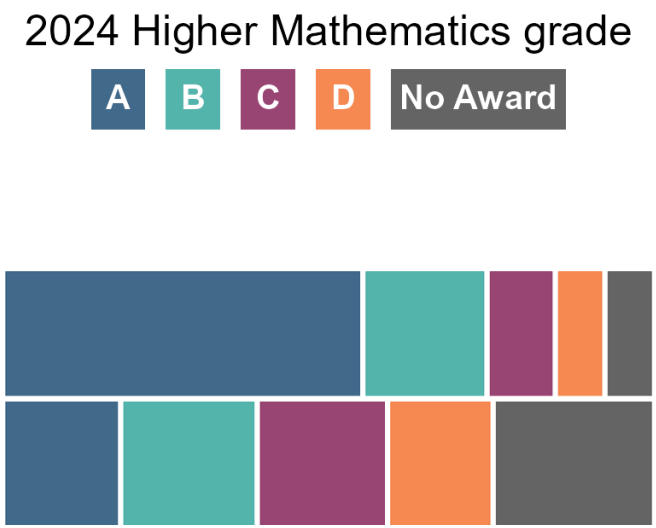
A B C D No Award

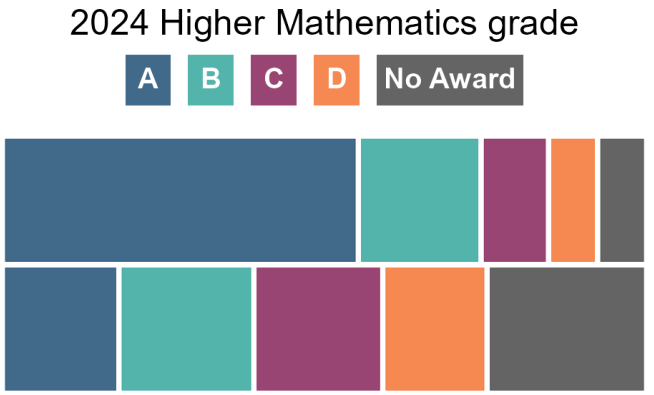
2024 Higher Mathematics grade

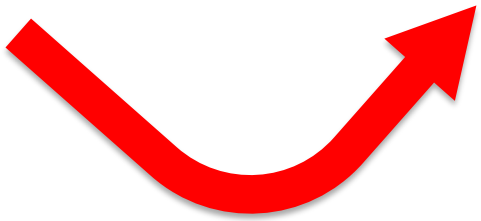
A B C D No Award



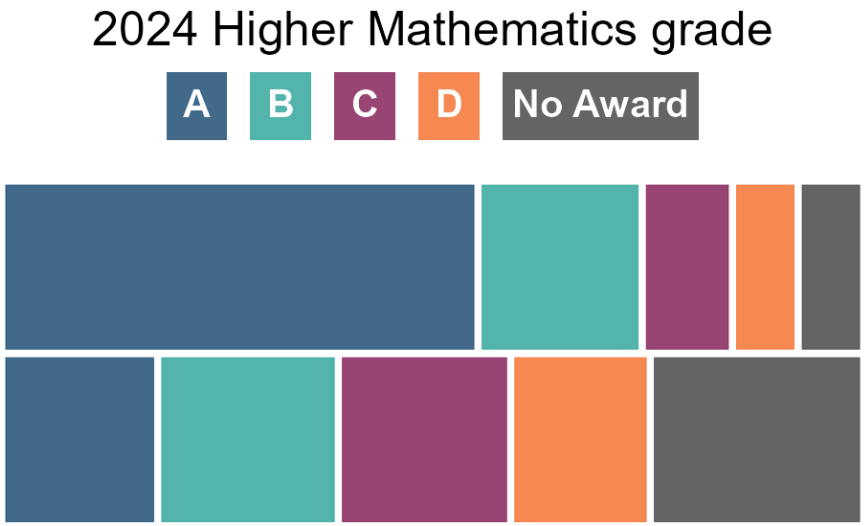
```
legend.key.width = unit(c(5.5, 5.5, 5.5, 5.5, 17.5), 'mm'),
```







```
legend.margin = ggplot2::margin(t = 0, r = 0, b = -25, l = 0, unit = "pt")
```




```
ggplot2::theme(legend.text.position = "bottom",
               legend.text = ggplot2::element_text(colour = "white",
                                                   vjust = 10.5,
                                                   face = "bold"),
               legend.key.width = unit(c(5.5, 5.5, 5.5, 5.5, 17.5), 'mm'),
               legend.margin = ggplot2::margin(t = 0, r = 0, b = -25, l = 0, unit = "pt"),
```

Rename and Select

```
data_frame |>
  dplyr::rename(new_name_1 = old_name_1,
                new_name_2 = old_name_2) |>
  dplyr::select(new_name_1,
                new_name_2)
```

```
data_frame |>
  dplyr::select(new_name_1 = old_name_1,
                new_name_2 = old_name_2)
```

Multiple Sourcing

```
source("R/function_1.R")
source("R/function_2.R")
source("R/function_3.R")
source("R/function_4.R")
source("R/function_5.R")
```

```
purrr::walk(.x = c("R/function_1.R",
                   "R/function_3.R",
                   "R/function_2.R",
                   "R/function_5.R",
                   "R/function_4.R"),
            .f = ~ source(file = .x),
            .progress = TRUE)
```

Multiple Sourcing

```
purrr::walk(.x = c("R/function_1.R",
                   "R/function_3.R",
                   "R/function_2.R",
                   "R/function_5.R",
                   "R/function_4.R"),
            .f = ~ source(file = .x),
            .progress = TRUE)
```

```
purrr::walk(.x = list.files(path = "R",
                            pattern = "*.R",
                            full.names = TRUE),
            .f = ~ source(file = .x),
            .progress = TRUE)
```

Replace all NAs

```r
tidyr::replace_na(replace = list(col_1_name = 0))

tidyr::replace_na(replace = list(col_2_name = ""))
```

```r
dplyr::mutate(dplyr::across(.cols = tidyselect::where(is.numeric),
                            .fns = ~ tidyr::replace_na(., 0)))

dplyr::mutate(dplyr::across(.cols = tidyselect::where(is.character),
                           .fns = ~ tidyr::replace_na(., "")))
```

Conditional Piping


```
syntax for conditional pipe step:

`{\(x) if(<condition>) <function>(x, <function_arguments>) else x}() |>`
or
`{\(y) if(<condition>) <function>(y, <function_arguments>) else y}() |>`
or
use any variable name as the 'anonymous function variable' to carry the data frame
through to the next stage of the pipe if the <condition> is not met

An extension of this that allows for two different things to happen, pending on the
`<condition>` is
```

```
{\(x) if(<condition>)
  <function_if_condition_true>(x, <function_arguments>)
  else
    <function_if_condition_false>(x, <function_arguments>)}() |>
```

Positron

https://positron.posit.co