library(tidyverse)

library(lubridate)

set.seed(24072020)

#VECTORS

x <- 10

x

h <- "Hello\_World"

print(h)

class(x)

class(h)

x <- as.integer(x)

h <- as.factor(h)

class(x)

class(h)

#using c

ten <- c(1:10)

ten[3] == 3

ten[3] == 4

mean(ten)

sum(ten)

sd(ten)

#rnorm(number of values, mean, SD)

norm <- rnorm(10000, 10, 1)

class(norm)

students <- c('Callum', "Nik", "Hattie", "Nathan")

low <- tolower(students)

high <- toupper(students)

length(students)

levels\_of\_student <- as.factor(students)

#tidyverse functions

str\_length(students)

ordered\_students <- str\_sort(students)

ordered\_students <- str\_sort(students, decreasing = TRUE)

#DATAFRAMES - make and merge

ID <- sample(1:100, 100)

Hb <- rnorm(100, 150, 10)

WCC <- rep(4:13, 10)

Time\_in\_hosp <- rpois(100, lambda = 4)

Date\_of\_admission <- Sys.Date() + sort(sample(1:100, 100))

Ward <- rep(c("Frensham", "Clandon", "Ewhurst", "Bramshott", "Compton"), 20)

Hb\_table <- tibble(ID, Hb)

WCC\_table <- tibble(ID, WCC)

TIH\_table <- tibble(ID, Time\_in\_hosp)

DOA\_table <- tibble(ID, Date\_of\_admission)

Ward\_table <- tibble(ID, Ward)

test\_df <-

list(Hb\_table, WCC\_table, TIH\_table, DOA\_table, Ward\_table) %>% reduce(full\_join, by = "ID")

same\_test\_df <- tibble(ID, Hb, WCC, Time\_in\_hosp, Date\_of\_admission, Ward)

test\_df\_ordered <- test\_df[order(test\_df$ID),]

#trailing comma means to take every column, we could specify certain columns instead

test\_df <- test\_df %>%

mutate(Hb\_dec = Hb/10)

anaemic\_pts <- test\_df %>%

filter(Hb\_dec < 14) %>%

group\_by(Ward) %>%

nest