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R SCRIPT – DIGITAL HEALTH EXAM

hd <- read.csv("C:/Users/fziad/Desktop/DIGITAL HEALTH/HABIE\_DATA.csv")

hd

print(head(hd))

summary(hd$column.id)

summary(hd$age)

summary(hd$gender)

summary(hd$gender=='F')

summary(hd$hypertension=='yes')

summary(hd$region)

ggplot(hd,aes(x=age)) + geom\_histogram(binwidth = 2, fill = "blue", color ="red",

alpha =0.8 )+ labs (title = "Age Distribution",

x= "Age", y = "Frequency")

ggplot(hd, aes(x=gender, y= age, fill=gender)) + geom\_boxplot() +labs(title = "Age Distribution by Gender", x= "gender", y= "age") + theme\_minimal()

ggplot(hd, aes (x=factor(education.level), fill=factor(education.level))) +geom\_bar()+

labs(title = "Education Distribution", x="education level", y="count")+

theme\_minimal()

cor\_hd = cor(hd)

print ("Correlation matrix")

print(cor\_hd)

ggplot(hd, aes (x=factor(region), fill=factor(region))) +geom\_bar()+

labs(title = "Regions", x="region", y="count")+

theme\_minimal()

ggplot(hd, aes(x= age, y=bmi)) +geom\_line()+

labs(title = "Line Graph", x="age", y="bmi")

ggplot(hd, aes(x= age, y=bmi)) +geom\_point()+

labs(title = "Line Graph", x="age", y="bmi")

data <-read.csv("C:/Users/fziad/Desktop/DIGITAL HEALTH/HABIE\_DATA.csv")

count <-sum(str\_count(data$gender, "F"))

print(paste0("There are", count, " 'F'characters in the 'gender'colum."))

OUTPUTS

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| library(shiny); runApp('C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R')  Listening on http://127.0.0.1:4144  Warning: Error in ggplot: could not find function "ggplot"  168: **renderPlot [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#35]**  166: func  126: drawPlot  112: <reactive:plotObj>  96: drawReactive  83: renderFunc  82: output$region\_counts  1: runApp  > install.packages("ggplot2")  WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:  https://cran.rstudio.com/bin/windows/Rtools/  Installing package into ‘C:/Users/fziad/AppData/Local/R/win-library/4.3’  (as ‘lib’ is unspecified)  trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.3/ggplot2\_3.4.4.zip'  Content type 'application/zip' length 4299185 bytes (4.1 MB)  downloaded 4.1 MB  package ‘ggplot2’ successfully unpacked and MD5 sums checked  The downloaded binary packages are in  C:\Users\fziad\AppData\Local\Temp\RtmpyGRkD4\downloaded\_packages  > library(ggplot2)  Need help? Try Stackoverflow: https://stackoverflow.com/tags/ggplot2  > runApp('C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R')  Listening on http://127.0.0.1:4144  Warning: Error in arrange: could not find function "arrange"  186: **<reactive:reactive\_data> [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#26]**  184: .func  181: contextFunc  180: env$runWith  173: ctx$run  172: self$.updateValue  170: reactive\_data  168: **renderPlot [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#35]**  166: func  126: drawPlot  112: <reactive:plotObj>  96: drawReactive  83: renderFunc  82: output$region\_counts  1: runApp  > runApp('C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/firstgraph.R')  Listening on http://127.0.0.1:4144  > install.packages("zoo")  WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:  https://cran.rstudio.com/bin/windows/Rtools/  Installing package into ‘C:/Users/fziad/AppData/Local/R/win-library/4.3’  (as ‘lib’ is unspecified)  trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.3/zoo\_1.8-12.zip'  Content type 'application/zip' length 1020214 bytes (996 KB)  downloaded 996 KB  package ‘zoo’ successfully unpacked and MD5 sums checked  The downloaded binary packages are in  C:\Users\fziad\AppData\Local\Temp\RtmpyGRkD4\downloaded\_packages  > library(zoo)  Attaching package: ‘zoo’  The following objects are masked from ‘package:base’:  as.Date, as.Date.numeric  > runApp('C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R')  Listening on http://127.0.0.1:4144  Warning: Error in arrange: could not find function "arrange"  186: **<reactive:reactive\_data> [C:/Users/fziad/Desktop/DIGITAL 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[C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#26]**  184: .func  181: contextFunc  180: env$runWith  173: ctx$run  172: self$.updateValue  170: reactive\_data  168: **renderPlot [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#35]**  166: func  126: drawPlot  112: <reactive:plotObj>  96: drawReactive  83: renderFunc  82: output$region\_counts  1: runApp  Warning: Error in arrange: could not find function "arrange"  186: **<reactive:reactive\_data> [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#28]**  184: .func  181: contextFunc  180: env$runWith  173: ctx$run  172: self$.updateValue  170: reactive\_data  168: **renderPlot [C:/Users/fziad/Desktop/DIGITAL HEALTH/HABI.DIGIHEALTHSHINY/HABI.DIGIHEALTH/secondgraph.R#35]**  166: func  126: drawPlot  112: <reactive:plotObj>  96: drawReactive  83: renderFunc  82: output$region\_counts  1: runApp  > hd <- read.csv("C:/Users/fziad/Desktop/DIGITAL HEALTH/HABIE\_DATA.csv")  > print(head(hd))  column.id gender age region count occupation hypertension medication  1 1 F 64 Central 3 farmer yes yes  2 2 F 75 Western 10 religious leader yes yes  3 3 F 43 Eastern 4 civil servant yes yes  4 4 M 55 Upper West 8 mechanic yes no  5 5 F 42 Upper East 7 dietitian no no  6 6 M 54 Brong Ahafo 2 unemployed no no  education.level bmi  1 secondary school 18  2 secondary school 24  3 secondary school 29  4 primary school 31  5 tertiary 34  6 tertiary 31  > summary(hd$hypertension=='yes')  Mode FALSE TRUE  logical 530 469  > ggplot(hd,aes(x=age)) + geom\_histogram(binwidth = 2, fill = "blue", color ="red",  + alpha =0.8 )+ labs (title = "Age Distribution",  + x= "Age", y = "Frequency")  > ggplot(hd, aes(x=gender, y= age, fill=gender)) + geom\_boxplot() +labs(title = "Age Distribution by Gender", x= "gender", y= "age") + theme\_minimal()  > ggplot(hd, aes (x=factor(education.level), fill=factor(education.level))) +geom\_bar()+  + labs(title = "Education Distribution", x="education level", y="count")+  + theme\_minimal()  > print(cor\_hd)  Error: object 'cor\_hd' not found  > ggplot(hd, aes (x=factor(region), fill=factor(region))) +geom\_bar()+  + labs(title = "Regions", x="region", y="count")+  + theme\_minimal()  > ggplot(hd, aes(x= age, y=bmi)) +geom\_line()+  + labs(title = "Line Graph", x="age", y="bmi")  > ggplot(hd, aes(x= age, y=bmi)) +geom\_point()+  + labs(title = "Line Graph", x="age", y="bmi")  > print(paste0("There are", count, " 'F'characters in the 'gender'colum."))  Error: object 'count' not found |
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SHINY CODES

FIRST GRAPH FOR AGE DISTRIBUTION

# Define UI

ui <- fluidPage(

titlePanel("Age Histogram"),

sidebarLayout(

sidebarPanel(

sliderInput("age\_range", "Age Range", min = 0, max = 100, value = c(20, 80)),

numericInput("bins", "Number of Bins", min = 5, max = 50, value = 20)

),

mainPanel(

plotOutput("age\_hist")

)

)

)

server <- function(input, output) {

output$age\_hist <- renderPlot({

age\_data <- rnorm(1000, mean = 50, sd = 15)

filtered\_data <- age\_data[age\_data >= input$age\_range[1] & age\_data <= input$age\_range[2]]

hist(filtered\_data, breaks = input$bins, main = "Age Histogram", col = "lightblue")

})

}

shinyApp(ui = ui, server = server)

SECOND GRAPH FOR CASE COUNT PER REGION