

HW8

Chrinovic Mukulu

2025-11-03

#Question 1

```
library(readr)
ss06hid <- read_csv("ss06hid.csv")
```

```
## Rows: 6496 Columns: 188
## -- Column specification -----
## Delimiter: ","
## chr   (1): RT
## dbl (187): SERIALNO, DIVISION, PUMA, REGION, ST, ADJUST, WGTP, NP, TYPE, ACR...
##
## i Use 'spec()' to retrieve the full column specification for this data.
## i Specify the column types or set 'show_col_types = FALSE' to quiet this message.
```

```
View(ss06hid)
fileUrl <- "https://d396qusza40orc.cloudfront.net/getdata%2Fdata%2Fss06hid.csv"
download.file(fileUrl, destfile = "ss06hid.csv",)
```

```
## Warning in download.file(fileUrl, destfile = "ss06hid.csv", ): URL
## https://d396qusza40orc.cloudfront.net/getdata%2Fdata%2Fss06hid.csv: cannot open
## destfile 'ss06hid.csv', reason 'Permission denied'
```

```
## Warning in download.file(fileUrl, destfile = "ss06hid.csv", ): download had
## nonzero exit status
```

```
Housing<- read.csv("ss06hid.csv")

agricultureLogical<- Housing$ACR == 3 & Housing$AGS == 6

which(agricultureLogical)[1:3]
```

```
## [1] 125 238 262
```

#Question 2

```
library(jpeg)
```

```
## Warning: package 'jpeg' was built under R version 4.5.2
```

```
url<- "https://drive.google.com/uc?export=download&id=10K0r-BZuoLObVcce8t1M7_GvQyECpjPp"
download.file(url, destfile = "hw8pic.jpg", mode = "wb")
img<- readJPEG("hw8pic.jpg", native = TRUE)

quantile(img, probs = c(0.3,0.8))
```

```
##          30%          80%
## -16776945  -6383497
```

#Question 3

```
gdp <- read.csv("getdata_data_GDP.csv", skip = 4, stringsAsFactors = FALSE)
edu <- read.csv("getdata_data_EDSTATS_Country.csv", stringsAsFactors = FALSE)
```

```
gdp <- gdp[!is.na(gdp$X), ]
names(gdp)[1:5] <- c("CountryCode", "Rank", "Economy", "GDP", "Extra")
merged <- merge(gdp[, c("CountryCode", "Rank", "Economy", "GDP")],
                edu,
                by = "CountryCode")
```

```
merged$Rank <- as.numeric(merged$Rank)
```

```
tapply(merged$Rank, merged$Income.Group, mean, na.rm = TRUE)[
  c("High income: OECD", "High income: nonOECD")
]
```

```
##      High income: OECD High income: nonOECD
##                32.96667                91.91304
```

```
merged$gdpGroup <- cut(merged$Rank,
                      breaks = quantile(merged$Rank, probs = seq(0,1,0.2), na.rm = TRUE),
                      include.lowest = TRUE)
table(merged$gdpGroup, merged$Income.Group)
```

```
##
##              High income: nonOECD High income: OECD Low income
## [1,38.6]      0                    4                18         0
## (38.6,76.2]   0                    5                10         1
## (76.2,114]    0                    8                 1         9
## (114,152]     0                    4                 1        16
## (152,190]     0                    2                 0        11
##
##              Lower middle income Upper middle income
## [1,38.6]      5                    11
## (38.6,76.2]   13                   9
## (76.2,114]    11                   8
## (114,152]     9                    8
## (152,190]    16                   9
```

```
topGroup <- merged$gdpGroup == levels(merged$gdpGroup)[1]

sum(topGroup & merged$Income.Group == "Lower middle income")
```

```
## [1] NA
```