U1:

ls :显示当前环境变量

class: 显示变量所属的类

as.character(var1)

is.character(var1\_char)

as.logical(var2)

class(var2\_log)

as.numeric(var3)

#Vector creation

numeric\_vector <- c(1, 2, 3)

character\_vector <- c("a", "b", "c")

boolean\_vector <- c(TRUE, FALSE)

#element select

numeric\_vector[1]

boolean\_vector[c(2,3)]

#element check

numeric\_vector <- c(1, 10, 49)

c(1,2,3)>10

numeric\_vector[larger\_than\_ten]

#create matrix

matrix(1:9, byrow = TRUE, nrow = 3, ncol = 3)

#categories var

factor(c("student", "not student", "student", "not student"))

#DATAFRAME operation

head: this by default prints the first 6 rows of the dataframe

tail: this by default prints the last 6 rows to the console

str: this prints the structure of your dataframe

dim: this by default prints the dimensions, that is, the number of rows and columns of your dataframe

colnames: this prints the names of the columns of your dataframe

data.frame() to make a dataset

# planets vector

planets <- c("Mercury", "Venus", "Earth", "Mars", "Jupiter", "Saturn", "Uranus", "Neptune")

# type vector

type <- c("Terrestrial planet", "Terrestrial planet", "Terrestrial planet", "Terrestrial planet", "Gas giant", "Gas giant", "Gas giant", "Gas giant")

# diameter vector

diameter <- c(0.382, 0.949, 1, 0.532, 11.209, 9.449, 4.007, 3.883)

# rotation vector

rotation <- c(58.64, -243.02, 1, 1.03, 0.41, 0.43, -0.72, 0.67)

# rings vector

rings <- c(FALSE, FALSE, FALSE, FALSE, TRUE, TRUE, TRUE, TRUE)

# construct a dataframe planet\_df from all the above variables

planet\_df <- data.frame(planets,type,diameter,rotation,rings)

# select the values in the first row and second and third columns

planet\_df[1,c(2,3)]

# select the entire third column

planet\_df$diameter