R version 4.3.2 (2023-10-31 ucrt) -- "Eye Holes"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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  Natural language support but running in an English locale

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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

```
> data()
> mtcars
                   mpg cyl  disp  hp drat    wt  qsec vs am gear carb
Mazda RX4         21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4
Mazda RX4 Wag     21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4
Datsun 710        22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
Hornet 4 Drive    21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
Hornet Sportabout 18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
Valiant           18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
Duster 360        14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
Merc 240D         24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
Merc 230          22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
Merc 280          19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
Merc 280C         17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
Merc 450SE        16.4   8 275.8 180 3.07 4.070 17.40  0  0    3    3
Merc 450SL        17.3   8 275.8 180 3.07 3.730 17.60  0  0    3    3
Merc 450SLC       15.2   8 275.8 180 3.07 3.780 18.00  0  0    3    3
Cadillac Fleetwood  10.4   8 472.0 205 2.93 5.250 17.98  0  0    3    4
Lincoln Continental 10.4   8 460.0 215 3.00 5.424 17.82  0  0    3    4
Chrysler Imperial   14.7   8 440.0 230 3.23 5.345 17.42  0  0    3    4
Fiat 128          32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1
Honda Civic       30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2
Toyota Corolla    33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1
Toyota Corona     21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1
Dodge Challenger  15.5   8 318.0 150 2.76 3.520 16.87  0  0    3    2
AMC Javelin       15.2   8 304.0 150 3.15 3.435 17.30  0  0    3    2
Camaro Z28        13.3   8 350.0 245 3.73 3.840 15.41  0  0    3    4
Pontiac Firebird  19.2   8 400.0 175 3.08 3.845 17.05  0  0    3    2
Fiat X1-9         27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1
Porsche 914-2     26.0   4 120.3  91 4.43 2.140 16.70  0  1    5    2
Lotus Europa      30.4   4  95.1 113 3.77 1.513 16.90  1  1    5    2
Ford Pantera L    15.8   8 351.0 264 4.22 3.170 14.50  0  1    5    4
Ferrari Dino      19.7   6 145.0 175 3.62 2.770 15.50  0  1    5    6
Maserati Bora     15.0   8 301.0 335 3.54 3.570 14.60  0  1    5    8
Volvo 142E        21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2
> summary(mtcars)
```

```
      mpg             cyl             disp             hp       
 Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0  
 1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5  
 Median :19.20   Median :6.000   Median :196.3   Median :123.0  
 Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7  
 3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0  
 Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0  
      drat             wt             qsec             vs        
 Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000  
 1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000  
 Median :3.695   Median :3.325   Median :17.71   Median :0.0000  
 Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375  
 3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000  
 Max.   :4.930   Max.   :5.424   Max.   :22.90   Max.   :1.0000  
       am              gear            carb      
 Min.   :0.0000   Min.   :3.000   Min.   :1.000  
 1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000  
 Median :0.0000   Median :4.000   Median :2.000  
 Mean   :0.4062   Mean   :3.688   Mean   :2.812  
 3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000  
 Max.   :1.0000   Max.   :5.000   Max.   :8.000  
> my_var <- 30 # my_var is type of numeric
> my_var <- "Sally" # my_var is now of type character (aka string)
> a <- 33
> b <- 200
>
> if (b > a) {
+   print("b is greater than a")
+ }
[1] "b is greater than a"
> x <- 41
>
> if (x > 10) {
+   print("Above ten")
+   if (x > 20) {
+     print("and also above 20!")
+   } else {
+     print("but not above 20.")
+   }
+ } else {
+   print("below 10.")
+ }
[1] "Above ten"
[1] "and also above 20!"
> a <- 200
> b <- 33
> c <- 500
>
> if (a > b & c > a) {
+   print("Both conditions are true")
+ }
[1] "Both conditions are true"
> i <- 1
> while (i < 6) {
+   print(i)
```

```
+   i <- i + 1
+ }
[1] 1
[1] 2
[1] 3
[1] 4
[1] 5
> for (x in 1:10) {
+   print(x)
+ }
[1] 1
[1] 2
[1] 3
[1] 4
[1] 5
[1] 6
[1] 7
[1] 8
[1] 9
[1] 10
> adj <- list("red", "big", "tasty")
>
> fruits <- list("apple", "banana", "cherry")
>   for (x in adj) {
+     for (y in fruits) {
+       print(paste(x, y))
+   }
+ }
[1] "red apple"
[1] "red banana"
[1] "red cherry"
[1] "big apple"
[1] "big banana"
[1] "big cherry"
[1] "tasty apple"
[1] "tasty banana"
[1] "tasty cherry"
> tri_recursion <- function(k) {
+   if (k > 0) {
+     result <- k + tri_recursion(k - 1)
+     print(result)
+   } else {
+     result = 0
+     return(result)
+   }
+ }
> tri_recursion(6)
[1] 1
[1] 3
[1] 6
[1] 10
[1] 15
[1] 21
> txt <- "awesome"
> my_function <- function() {
```

```
+   paste("R is", txt)
+ }
>
> my_function()
[1] "R is awesome"
> mean(mtcars)
[1] NA
Warning message:
In mean.default(mtcars) : argument is not numeric or logical: returning NA
> # x-axis values
> x <- c("A", "B", "C", "D")
>
> # y-axis values
> y <- c(2, 4, 6, 8)
>
> barplot(y, names.arg = x)
> x <- c(5,7,8,7,2,2,9,4,11,12,9,6)
> y <- c(99,86,87,88,111,103,87,94,78,77,85,86)
>
> plot(x, y)
> plot(1:10, type="l")
>
```