Rmd Practice Document

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# Hello World!

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*italic*  
**Bold**

# **Hello World!**

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* Bullet 1
* Bullet 2

You can type whatever you want in here and when you click “knit”, it shall compile and produce the document.

You can also add link to the text. For example, Dr S P Naik profile is available at [**Google Scholar**](https://scholar.google.com/citations?user=zsSyZVoAAAAJ&hl=en&oi=ao)

R Markdown allows the insertion of R code

print("Hello world!")

## [1] "Hello world!"

#Assignment Operators and Basic Algebra in R  
a=15  
b=3  
cat("Sum of a+b =", a+b)

## Sum of a+b = 18

cat("Difference of a-b =", a-b)

## Difference of a-b = 12

print(paste("Product of a\*b =", a\*b))

## [1] "Product of a\*b = 45"

library(glue) #using the glue library  
print(glue("Ratio of a÷b = {a/b}"))

## Ratio of a÷b = 5

#Playing with datasets  
data=mtcars  
data

## 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

## For better display  
  
### Option 1   
library(kableExtra)  
  
#### For html  
#kable(mtcars,caption="Table 1: Motor Car Road Tests") %>% #kable\_styling(bootstrap\_options = c("stripped","hover","condensed"))  
  
### For pdf  
#kable(mtcars,booktabs=TRUE, caption = "Table 1: Motor Car Road Tests") %>% #kable\_styling(latex\_options = "hold\_position")  
  
library(gt)  
data %>% gt() %>% tab\_header(title = "Table 1: Motor Car Road Tests",subtitle = "A dataset of 32 cars from 1974")

Table 1: Table 1: Motor Car Road Tests

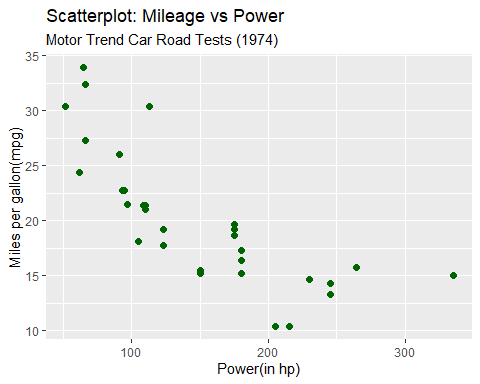
A dataset of 32 cars from 1974

| mpg | cyl | disp | hp | drat | wt | qsec | vs | am | gear | carb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21.0 | 6 | 160.0 | 110 | 3.90 | 2.620 | 16.46 | 0 | 1 | 4 | 4 |
| 21.0 | 6 | 160.0 | 110 | 3.90 | 2.875 | 17.02 | 0 | 1 | 4 | 4 |
| 22.8 | 4 | 108.0 | 93 | 3.85 | 2.320 | 18.61 | 1 | 1 | 4 | 1 |
| 21.4 | 6 | 258.0 | 110 | 3.08 | 3.215 | 19.44 | 1 | 0 | 3 | 1 |
| 18.7 | 8 | 360.0 | 175 | 3.15 | 3.440 | 17.02 | 0 | 0 | 3 | 2 |
| 18.1 | 6 | 225.0 | 105 | 2.76 | 3.460 | 20.22 | 1 | 0 | 3 | 1 |
| 14.3 | 8 | 360.0 | 245 | 3.21 | 3.570 | 15.84 | 0 | 0 | 3 | 4 |
| 24.4 | 4 | 146.7 | 62 | 3.69 | 3.190 | 20.00 | 1 | 0 | 4 | 2 |
| 22.8 | 4 | 140.8 | 95 | 3.92 | 3.150 | 22.90 | 1 | 0 | 4 | 2 |
| 19.2 | 6 | 167.6 | 123 | 3.92 | 3.440 | 18.30 | 1 | 0 | 4 | 4 |
| 17.8 | 6 | 167.6 | 123 | 3.92 | 3.440 | 18.90 | 1 | 0 | 4 | 4 |
| 16.4 | 8 | 275.8 | 180 | 3.07 | 4.070 | 17.40 | 0 | 0 | 3 | 3 |
| 17.3 | 8 | 275.8 | 180 | 3.07 | 3.730 | 17.60 | 0 | 0 | 3 | 3 |
| 15.2 | 8 | 275.8 | 180 | 3.07 | 3.780 | 18.00 | 0 | 0 | 3 | 3 |
| 10.4 | 8 | 472.0 | 205 | 2.93 | 5.250 | 17.98 | 0 | 0 | 3 | 4 |
| 10.4 | 8 | 460.0 | 215 | 3.00 | 5.424 | 17.82 | 0 | 0 | 3 | 4 |
| 14.7 | 8 | 440.0 | 230 | 3.23 | 5.345 | 17.42 | 0 | 0 | 3 | 4 |
| 32.4 | 4 | 78.7 | 66 | 4.08 | 2.200 | 19.47 | 1 | 1 | 4 | 1 |
| 30.4 | 4 | 75.7 | 52 | 4.93 | 1.615 | 18.52 | 1 | 1 | 4 | 2 |
| 33.9 | 4 | 71.1 | 65 | 4.22 | 1.835 | 19.90 | 1 | 1 | 4 | 1 |
| 21.5 | 4 | 120.1 | 97 | 3.70 | 2.465 | 20.01 | 1 | 0 | 3 | 1 |
| 15.5 | 8 | 318.0 | 150 | 2.76 | 3.520 | 16.87 | 0 | 0 | 3 | 2 |
| 15.2 | 8 | 304.0 | 150 | 3.15 | 3.435 | 17.30 | 0 | 0 | 3 | 2 |
| 13.3 | 8 | 350.0 | 245 | 3.73 | 3.840 | 15.41 | 0 | 0 | 3 | 4 |
| 19.2 | 8 | 400.0 | 175 | 3.08 | 3.845 | 17.05 | 0 | 0 | 3 | 2 |
| 27.3 | 4 | 79.0 | 66 | 4.08 | 1.935 | 18.90 | 1 | 1 | 4 | 1 |
| 26.0 | 4 | 120.3 | 91 | 4.43 | 2.140 | 16.70 | 0 | 1 | 5 | 2 |
| 30.4 | 4 | 95.1 | 113 | 3.77 | 1.513 | 16.90 | 1 | 1 | 5 | 2 |
| 15.8 | 8 | 351.0 | 264 | 4.22 | 3.170 | 14.50 | 0 | 1 | 5 | 4 |
| 19.7 | 6 | 145.0 | 175 | 3.62 | 2.770 | 15.50 | 0 | 1 | 5 | 6 |
| 15.0 | 8 | 301.0 | 335 | 3.54 | 3.570 | 14.60 | 0 | 1 | 5 | 8 |
| 21.4 | 4 | 121.0 | 109 | 4.11 | 2.780 | 18.60 | 1 | 1 | 4 | 2 |

Now let’s move on to the next chunk of code.

# **Plots with R for dataset mtcars**

library(ggplot2)  
  
#Scatterplot for Mileage vs Weight  
ggplot(data,aes(x=hp,y=mpg))+geom\_point(col="darkgreen",pch=19, size=2)+ggtitle("Scatterplot: Mileage vs Power",subtitle = "Motor Trend Car Road Tests (1974)")+xlab("Power(in hp)")+ylab("Miles per gallon(mpg)")



**Note: Session Info**

sessionInfo()

## R version 4.5.1 (2025-06-13 ucrt)  
## Platform: x86\_64-w64-mingw32/x64  
## Running under: Windows 11 x64 (build 26100)  
##   
## Matrix products: default  
## LAPACK version 3.12.1  
##   
## locale:  
## [1] LC\_COLLATE=English\_India.utf8 LC\_CTYPE=English\_India.utf8   
## [3] LC\_MONETARY=English\_India.utf8 LC\_NUMERIC=C   
## [5] LC\_TIME=English\_India.utf8   
##   
## time zone: Asia/Calcutta  
## tzcode source: internal  
##   
## attached base packages:  
## [1] stats graphics grDevices utils datasets methods base   
##   
## other attached packages:  
## [1] ggplot2\_4.0.0 gt\_1.1.0 kableExtra\_1.4.0 glue\_1.8.0   
##   
## loaded via a namespace (and not attached):  
## [1] gtable\_0.3.6 dplyr\_1.1.4 compiler\_4.5.1 crayon\_1.5.3   
## [5] tidyselect\_1.2.1 xml2\_1.4.0 stringr\_1.5.2 systemfonts\_1.3.1   
## [9] scales\_1.4.0 textshaping\_1.0.3 yaml\_2.3.10 fastmap\_1.2.0   
## [13] R6\_2.6.1 labeling\_0.4.3 generics\_0.1.4 knitr\_1.50   
## [17] tibble\_3.3.0 svglite\_2.2.1 pillar\_1.11.1 RColorBrewer\_1.1-3  
## [21] rlang\_1.1.6 stringi\_1.8.7 xfun\_0.53 fs\_1.6.6   
## [25] S7\_0.2.0 viridisLite\_0.4.2 cli\_3.6.5 withr\_3.0.2   
## [29] magrittr\_2.0.4 digest\_0.6.37 grid\_4.5.1 rstudioapi\_0.17.1   
## [33] lifecycle\_1.0.4 vctrs\_0.6.5 evaluate\_1.0.5 farver\_2.1.2   
## [37] rmarkdown\_2.30 tools\_4.5.1 pkgconfig\_2.0.3 htmltools\_0.5.8.1