R Commands Quick Reference

Essential R commands for daily data science work

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## 1 Data Import/Export

| Task | Command | Example |
| --- | --- | --- |
| Read CSV | read.csv() | read.csv("data.csv") |
| Read Excel | readxl::read\_excel() | read\_excel("data.xlsx") |
| Write CSV | write.csv() | write.csv(df, "output.csv") |
| Save RDS | saveRDS() | saveRDS(data, "data.rds") |
| Load RDS | readRDS() | readRDS("data.rds") |

## 2 Data Manipulation (dplyr)

| Task | Command | Example |
| --- | --- | --- |
| Filter rows | filter() | filter(df, age > 18) |
| Select columns | select() | select(df, name, age) |
| Create columns | mutate() | mutate(df, age\_months = age \* 12) |
| Group data | group\_by() | group\_by(df, category) |
| Summarize | summarise() | summarise(df, mean\_age = mean(age)) |
| Sort | arrange() | arrange(df, desc(age)) |

## 3 Data Visualization (ggplot2)

| Task | Command | Example |
| --- | --- | --- |
| Scatter plot | geom\_point() | ggplot(df, aes(x, y)) + geom\_point() |
| Line plot | geom\_line() | ggplot(df, aes(x, y)) + geom\_line() |
| Bar plot | geom\_bar() | ggplot(df, aes(x)) + geom\_bar() |
| Histogram | geom\_histogram() | ggplot(df, aes(x)) + geom\_histogram() |
| Box plot | geom\_boxplot() | ggplot(df, aes(x, y)) + geom\_boxplot() |

## 4 Statistical Functions

| Task | Command | Example |
| --- | --- | --- |
| Mean | mean() | mean(x, na.rm = TRUE) |
| Median | median() | median(x, na.rm = TRUE) |
| Standard deviation | sd() | sd(x, na.rm = TRUE) |
| Correlation | cor() | cor(x, y, use = "complete.obs") |
| Linear model | lm() | lm(y ~ x, data = df) |
| ANOVA | aov() | aov(y ~ group, data = df) |

## 5 String Operations

| Task | Command | Example |
| --- | --- | --- |
| Concatenate | paste() | paste("Hello", "World") |
| Split string | strsplit() | strsplit("a,b,c", ",") |
| Find pattern | grep() | grep("pattern", x) |
| Replace pattern | gsub() | gsub("old", "new", x) |
| String length | nchar() | nchar("hello") |

## 6 Package Management

| Task | Command | Example |
| --- | --- | --- |
| Install package | install.packages() | install.packages("dplyr") |
| Load package | library() | library(dplyr) |
| Update packages | update.packages() | update.packages() |
| List packages | installed.packages() | installed.packages() |

## 7 Workspace Management

| Task | Command | Example |
| --- | --- | --- |
| List objects | ls() | ls() |
| Remove objects | rm() | rm(x, y) |
| Clear workspace | rm(list = ls()) | rm(list = ls()) |
| Working directory | getwd() | getwd() |
| Set directory | setwd() | setwd("/path/to/dir") |

## 8 Data Types & Structure

| Task | Command | Example |
| --- | --- | --- |
| Data type | class() | class(x) |
| Structure | str() | str(df) |
| Dimensions | dim() | dim(df) |
| Column names | names() | names(df) |
| Summary | summary() | summary(df) |
| First rows | head() | head(df, 10) |
| Last rows | tail() | tail(df, 10) |

## 9 Missing Values

| Task | Command | Example |
| --- | --- | --- |
| Check for NA | is.na() | is.na(x) |
| Remove NA | na.omit() | na.omit(df) |
| Complete cases | complete.cases() | complete.cases(df) |

## 10 Quick Tips

* Use ?function\_name to get help
* Use Tab for auto-completion in RStudio
* Use Ctrl+Shift+M for pipe operator %>%
* Use Ctrl+Shift+C to comment/uncomment code