

# 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	<code>read.csv()</code>	<code>read.csv("data.csv")</code>
Read Excel	<code>readxl::read_excel()</code>	<code>read_excel("data.xlsx")</code>
Write CSV	<code>write.csv()</code>	<code>write.csv(df, "output.csv")</code>
Save RDS	<code>saveRDS()</code>	<code>saveRDS(data, "data.rds")</code>
Load RDS	<code>readRDS()</code>	<code>readRDS("data.rds")</code>

## 2 Data Manipulation (dplyr)

Task	Command	Example
Filter rows	<code>filter()</code>	<code>filter(df, age &gt; 18)</code>
Select columns	<code>select()</code>	<code>select(df, name, age)</code>
Create columns	<code>mutate()</code>	<code>mutate(df, age_months = age * 12)</code>
Group data	<code>group_by()</code>	<code>group_by(df, category)</code>
Summarize	<code>summarise()</code>	<code>summarise(df, mean_age = mean(age))</code>
Sort	<code>arrange()</code>	<code>arrange(df, desc(age))</code>

## 3 Data Visualization (ggplot2)

Task	Command	Example
Scatter plot	<code>geom_point()</code>	<code>ggplot(df, aes(x, y)) + geom_point()</code>
Line plot	<code>geom_line()</code>	<code>ggplot(df, aes(x, y)) + geom_line()</code>
Bar plot	<code>geom_bar()</code>	<code>ggplot(df, aes(x)) + geom_bar()</code>
Histogram	<code>geom_histogram()</code>	<code>ggplot(df, aes(x)) + geom_histogram()</code>
Box plot	<code>geom_boxplot()</code>	<code>ggplot(df, aes(x, y)) + geom_boxplot()</code>

## 4 Statistical Functions

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

## 5 String Operations

Task	Command	Example
Concatenate	<code>paste()</code>	<code>paste("Hello", "World")</code>

Task	Command	Example
Split string	<code>strsplit()</code>	<code>strsplit("a,b,c", ",")</code>
Find pattern	<code>grep()</code>	<code>grep("pattern", x)</code>
Replace pattern	<code>gsub()</code>	<code>gsub("old", "new", x)</code>
String length	<code>nchar()</code>	<code>nchar("hello")</code>

## 6 Package Management

Task	Command	Example
Install package	<code>install.packages()</code>	<code>install.packages("dplyr")</code>
Load package	<code>library()</code>	<code>library(dplyr)</code>
Update packages	<code>update.packages()</code>	<code>update.packages()</code>
List packages	<code>installed.packages()</code>	<code>installed.packages()</code>

## 7 Workspace Management

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

## 8 Data Types & Structure

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

## 9 Missing Values

Task	Command	Example
Check for NA	<code>is.na()</code>	<code>is.na(x)</code>
Remove NA	<code>na.omit()</code>	<code>na.omit(df)</code>
Complete cases	<code>complete.cases()</code>	<code>complete.cases(df)</code>

## 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