SOURCEBOOK

R

DATA ENTRY

Abstract: This chapter shows how to enter the data in R via written instructions. Simple examples for most undergraduate-level between-subjects and within-subjects research designs are provided.

Keywords: R, directions for use

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This document is part of an online statistics sourcebook.

A browser-friendly viewing platform for the sourcebook is available:
https://cwendorf.github.io/Sourcebook

All data, syntax, and output files are available:
https://github.com/cwendorf/Sourcebook

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One Sample Data

In the steps below, the commands should be typed directly into the R console window.

Entering Data

Enter the data in a vector that assigns a variable name.

```
Outcome <- c(0, 0, 3, 5, 4, 7, 4, 9)
```

Viewing Data

Create and display a data frame to view the data set.

```
OneSampleData <- data.frame(Outcome)
OneSampleData
```

Repeated Measures Data

In the steps below, the commands should be typed directly into the R console window.

Entering Data

Enter the data in vectors that assign variable names.

```
Outcome1 <- c(0, 0, 3, 5)
Outcome2 <- c(4, 7, 4, 9)
```

Viewing Data

Create and display a data frame to view the data set.

```
RepeatedData <- data.frame(Outcome1, Outcome2)
RepeatedData
```

Adding Data

If your data set has more than two variables, simply be sure to add more variables to account for the additional measurements. (You may want to name the data frame something unique to keep it separate from the other data sets.)

Multiple Sample Data

In the steps below, the commands should be typed directly into the R console window.

Entering Data

Enter the data in vectors that assign variable names. On the categorical Factor, you will use numbers to represent the categories (or "levels") of the variable.

```
Factor <- c(rep(1, 4), rep(2, 4))
Outcome <- c(0, 0, 3, 5, 4, 7, 4, 9)
```

Declare which variable is considered a Factor. In addition to specifying how many levels the factor has, you can provide labels for them.

```
Factor <- factor(Factor, levels=c(1, 2), labels=c("Level1", "Level2"))
```

Viewing Data

Create and display a data frame to view the data set.

```
IndependentData <- data.frame(Factor, Outcome)
IndependentData
```

Adding Data

If your data set has more than two groups, simply be sure to add a group indicator (a value on the "Factor" variable) and a "Outcome" for each additional person.

```
Factor <- c(rep(1, 4), rep(2, 4), rep(3, 4))
Outcome <- c(0, 0, 3, 5, 4, 7, 4, 9, 9, 6, 4, 9)
```

```
Factor <- factor(Factor, levels=c(1, 2, 3), labels=c("Level1", "Level2",
"Level3"))
```

```
OneWayData <- data.frame(Factor, Outcome)
OneWayData
```

Factorial Data

In the steps below, the commands should be typed directly into the R console window.

Entering Data

Enter the data in vectors that assign variable names. Notice that each participant has scores on both the Factors and Outcome Variables. There will be as many scores as people. On the categorical Factors, you will use numbers to represent the categories (or "levels") of the variables.

```
FactorA <- c(1, 1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2)
FactorB <- c(1, 1, 1, 1, 2, 2, 2, 2, 1, 1, 1, 1, 2, 2, 2, 2)
Outcome <- c(0, 0, 3, 5, 4, 7, 4, 9, 9, 6, 4, 9, 3, 6, 8, 3)
```

Declare which variables are considered Factors. In addition to specifying how many levels the factors have, you can provide labels for them.

```
FactorA <- factor(FactorA, levels=c(1, 2), labels=c("A1", "A2"))
FactorB <- factor(FactorB, levels=c(1, 2), labels=c("B1", "B2"))
```

Viewing Data

Create and display a data frame to view the data set.

```
FactorialData <- data.frame(FactorA, FactorB, Outcome)
FactorialData
```