

## Files and the Filesystem

### File Paths

```
/Users/christina/Documents/my_project/data.csv  
/home/christina/my_project/data.csv  
C:\Users\christina\Documents\my_project\data.csv
```

are examples of \_\_\_\_\_

```
../my_project/data/data.csv  
data.csv  
data/data.csv
```

are examples of \_\_\_\_\_

### Special Patterns

In file paths,

.. means \_\_\_\_\_

~ means \_\_\_\_\_

### Additional Concepts

The working directory is \_\_\_\_\_

\_\_\_\_\_

### Working with Files

To retrieve information from a file, \_\_\_\_\_ from it. To put information into a file, \_\_\_\_\_ to it.

CSV (comma separated values) are one type of plain text file. Plain text files have no \_\_\_\_\_ such as bold text, colors, or fonts.

R and Python expect that when data is stored in CSV (or tab-delimited) files, each observation is a \_\_\_\_\_ and each variable is a \_\_\_\_\_. Rows and columns may or may not have names. Data is stored in a rectangle: each row has the same number of columns, and each column has the same number of rows.