

Summary Sheet

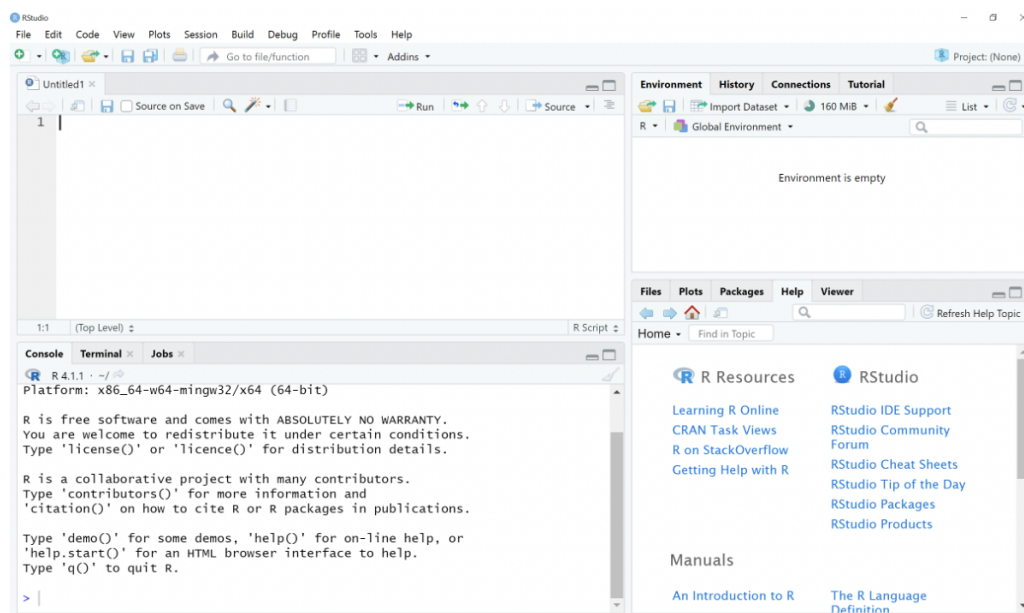
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Class 1

Main components of RStudio

1. **Console:** panel where you can execute R code and see the results immediately
2. **Script:** panel where you write and edit your R code. It supports features like syntax highlighting, code completion, and automatic indentation, making it easier to write and read code
3. **Environment:** panel that displays available variables and their values, along with data frames in the current session.
4. **Output/Viewer:** panel for displaying plots generated by R, navigating your file system and manage files and directories, and online help documentation for functions and variables.



R Basics

Coding style

- comment your code so it's easily interpretable (using #)
- when assigning a variable, use `<-`, not `=`
- never reassign reserved words/built in functions (i.e., mean)
- Rules for object names:
 1. Must start with a letter
 2. Can only contain letters, numbers, underscores, and periods

3. Typical style conventions; camelCase, snake_case

Things to remember

- R is case sensitive (x is not the same as X)
- When indexing, R starts from 1 (as opposed to languages like python that start at 0)

Math operations

At its most basic function, R works as a "fancy" calculator

Basic Math Operators	Operation
$x + y$	Addition
$x - y$	Subtraction
$x * y$	Multiplication
x / y	Division
$x ^ y$	Exponent
$x \% y$	Modulus

Built-in functions

- Packages are collections of R functions, data, and compiled code.
- Libraries are directories in R where the packages are stored.
- Built-in functions are part of R standard or base packages and do not need to be downloaded.
- Typical format:

- `function_name(argument1 = value1, argument2 = value2, ...)`
- to find out more information with regards to a package , use `help(function_name)` or ?
`function_name`

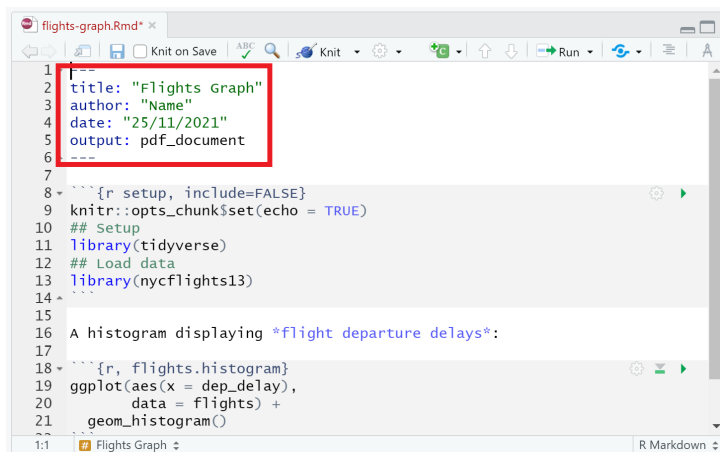
- to install a package that is not built-in to R, use the following commands:

`install.packages(package_name)` to download a package

`library(package_name)` to load it into your RStudio session

Main components of RMarkdown

- **YAML header:** contains the document information and settings are specified

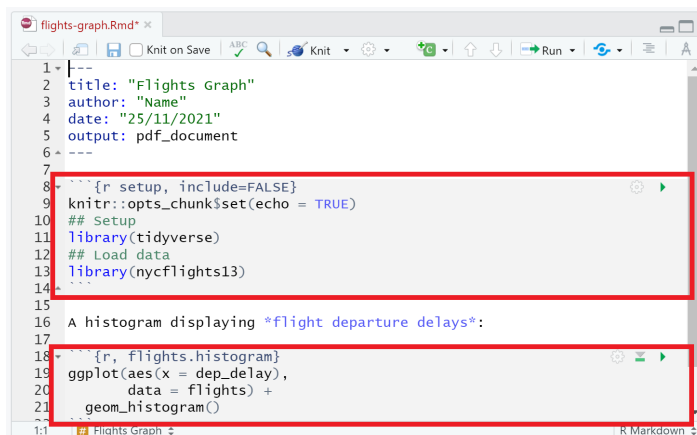


- **Chunks:** where code is written. You can write in code chunks the same way you would write in a script

format of a chunk

```
```{r} to open a chunk
```

```
``` to close a chunk
```



you can knit your RMarkdown file to to a more common file type, including PDFs, Word documents, and html files

