



R PACKAGE VALIDATION WORKSHOP

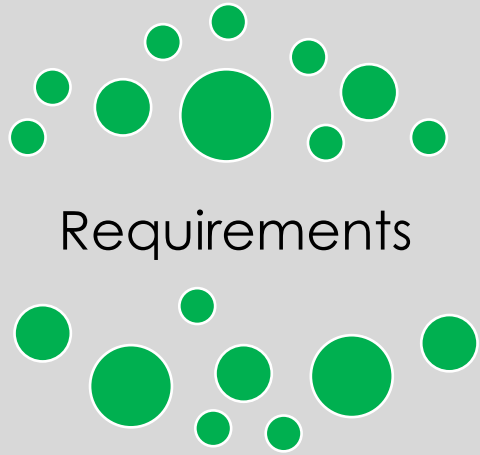
The
Validation Report

Welcome

- Adding Test Cases & Test Code
- Validation Reports



VALIDATION ELEMENTS



Record the expectations, goals, and risks of project



Test Cases

Describes how code meets specifications



Test Code

Implementation of the test cases in code

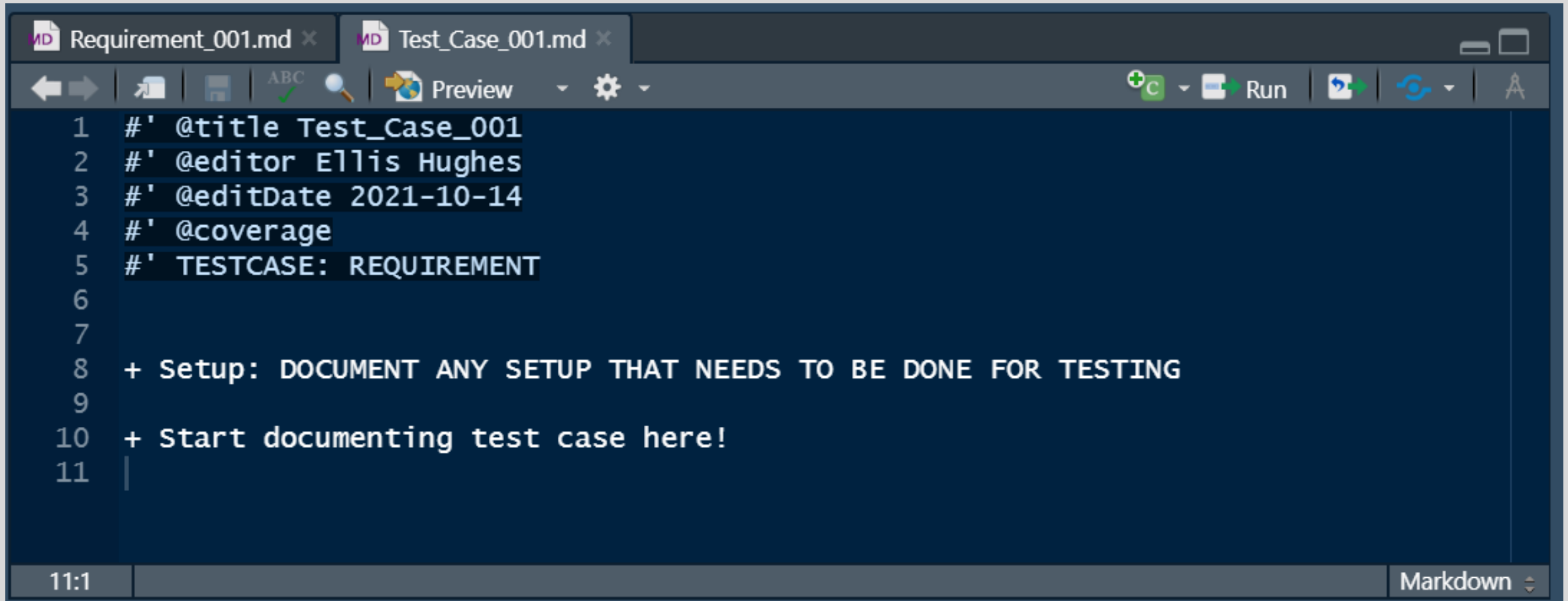


Combines all prior content into report documenting proof that code meets specifications

Test Cases - vt_use_test_case()

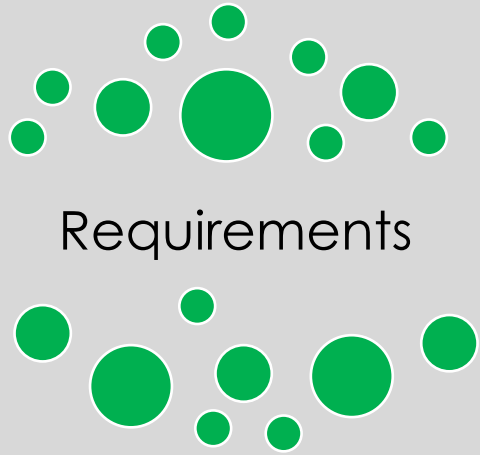
- Key Arguments
 - name – Test case name
 - username - Person's name writing test case
- Generates file and opens for editing

Test Cases - vt_use_test_case()



The screenshot shows a code editor with two tabs: 'Requirement_001.md' and 'Test_Case_001.md'. The 'Test_Case_001.md' tab is active, displaying a template for a test case. The editor has a dark blue background with light blue line numbers on the left. The toolbar at the top includes icons for navigation, editing, and running code. The status bar at the bottom shows the current position as '11:1' and the file type as 'Markdown'.

```
1 #' @title Test_Case_001
2 #' @editor Ellis Hughes
3 #' @editDate 2021-10-14
4 #' @coverage
5 #' TESTCASE: REQUIREMENT
6
7
8 + Setup: DOCUMENT ANY SETUP THAT NEEDS TO BE DONE FOR TESTING
9
10 + Start documenting test case here!
11 |
```



Record the expectations, goals, and risks of project



Test Cases

Describes how code meets specifications



Test Code

Implementation of the test cases in code

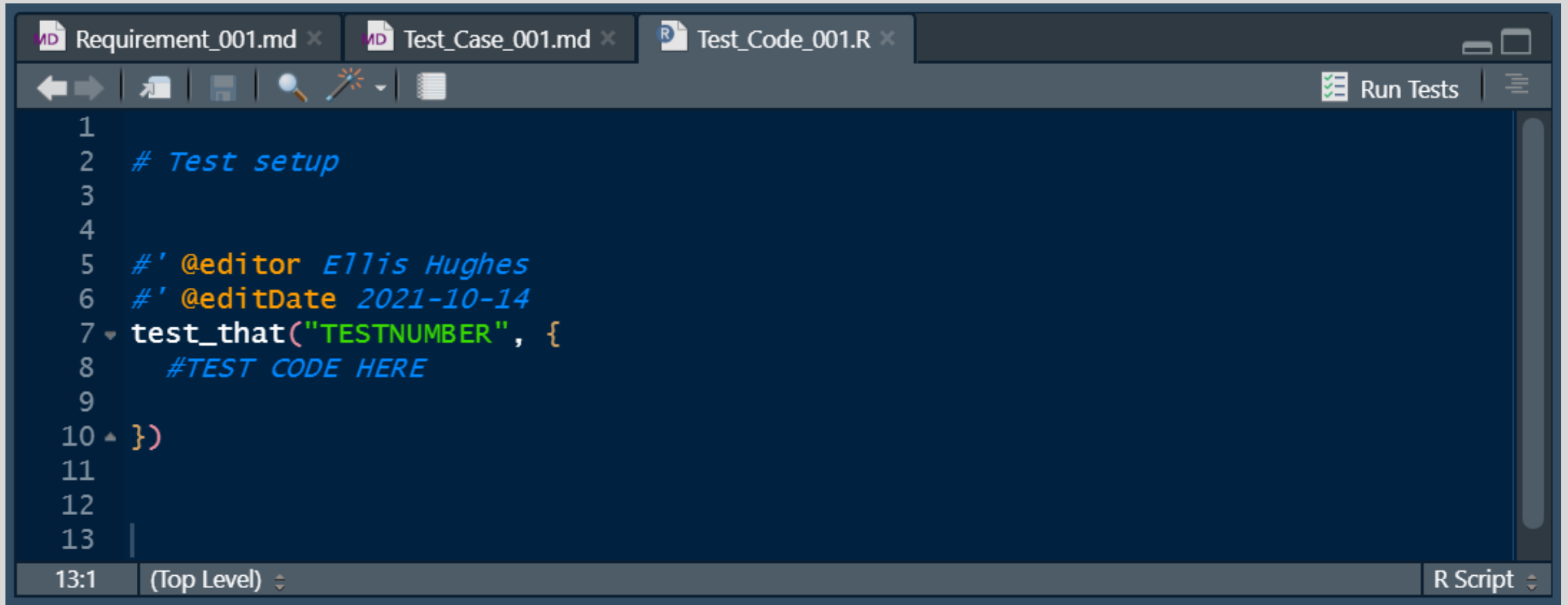


Combines all prior content into report documenting proof that code meets specifications

Test Code - vt_use_test_code()

- Key Arguments
 - name – Test code name
 - username - Person's name writing test cod
- Generates file and opens for editing

Test Code - vt_use_test_code()



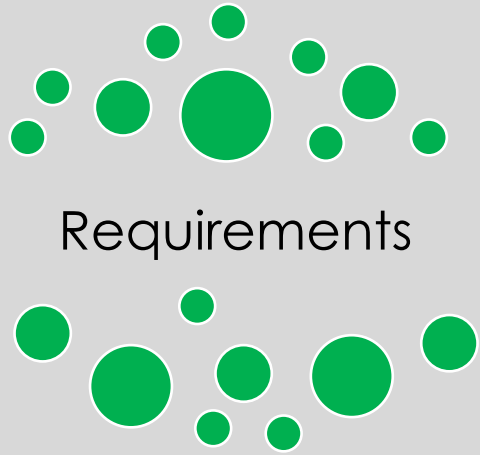
The screenshot shows an RStudio editor window with three tabs: Requirement_001.md, Test_Case_001.md, and Test_Code_001.R. The active tab is Test_Code_001.R, which contains the following R code:

```
1  
2 # Test setup  
3  
4  
5 #' @editor Ellis Hughes  
6 #' @editDate 2021-10-14  
7 test_that("TESTNUMBER", {  
8   #TEST CODE HERE  
9  
10 })  
11  
12  
13
```

The status bar at the bottom indicates the cursor is at line 13, column 1, and the file is an R Script.



VALIDATION REPORT



Requirements

Record the expectations, goals, and risks of project



Test Cases

Describes how code meets specifications



Test Code

Implementation of the test cases in code



Validation Report

Combines all prior content into report documenting proof that code meets specifications

Report basics

- Parse each requirement and test case file
- Evaluate and capture test code results and print

{valtools} Reports

- Reports are Rmd and therefore infinitely customizable
- Provided many helper functions with valtools
 - Environment
 - Scraping Validation information
 - Recording News, etc

Report Helper – vt_file

Key Arguments

file – path to the file to render

```
24 ▾ ```{r requirement_1}
25
26 vt_file(file.path("validation", "requirements", "req1.md"))
27
28 ▲ ```
```

```
55 ▾ ```{r test_code_1}
56
57 vt_file(file.path("validation", "test_code", "testcode1.R"))
58
59 ▲ ```
60
```

Report Helper – vt_path

Key Arguments

file – path components to a file

- Like `here::here()`, reference is the validation folder
- Useful for other validation contexts (within package)

```
24  ````{r requirement_1}
25
26  vt_file(vt_path("requirements", "req1.md"))
27
28  ````
29
```

Rendering Reports

- `vt_validate_report()` executes the Rmd and saves output
- Serves as “snapshot” in time
- Rmd result from validation to output location



COMPLETE EXERCISE 5

Navigate to
Materials/Materials-05-Validation_Report