

# SHETH L.U.J & SIR M.V COLLEGE OF SCIENCE

## SUBJECT : Data Analysis with SAS / SPSS / R

**AIM : Performing one-sample t-tests using t.test() (R).**

### OUTPUT

The screenshot displays the RStudio interface. The console shows the execution of R code for a one-sample t-test. The code reads a CSV file, calculates the t-statistic, and prints the results. The Environment pane on the right shows the loaded data objects: 'book', 'elev', 't\_test...', and 'cross\_t...'. The Files pane shows the project directory structure.

```
> print("4. One-Sample t-test (Elevator Wait Time) ---")
[1] "4. One-Sample t-test (Elevator Wait Time) ---"
> elev <- read.csv("elevator_traffic.csv")
> # Question: Is the average wait_time_seconds significantly different from 10 seconds?
> t_test_wait <- t.test(elev$wait_time_seconds, mu = 10)
> print(t_test_wait)
```

One Sample t-test

data: elev\$wait\_time\_seconds  
t = 8.5319, df = 299, p-value = 7.326e-16  
alternative hypothesis: true mean is not equal to 10  
95 percent confidence interval:  
11.71356 12.74104  
sample estimates:  
mean of x  
12.2273

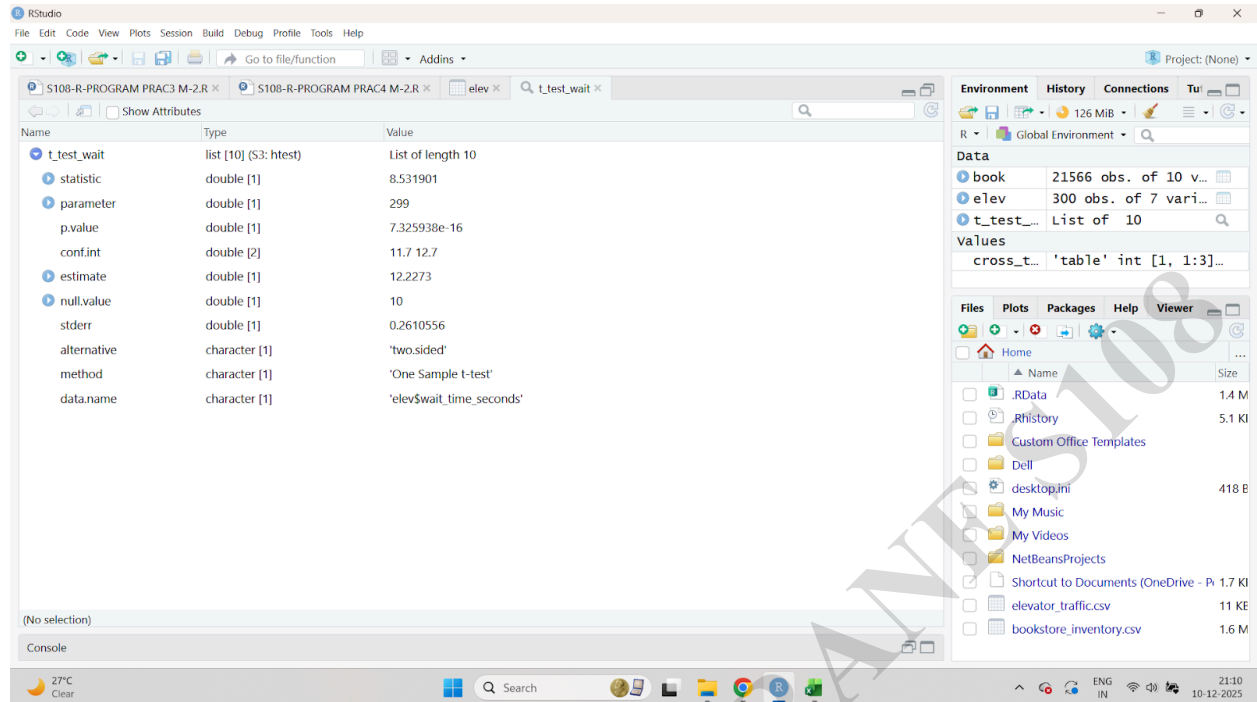
timestamp	floor_requested	wait_time_seconds	direction	people_count	peak_hour	load_percent
1 2025-01-01 11:31	5	16.53	Down	5	No	53
2 2025-01-01 10:22	12	18.98	Down	3	Yes	20
3 2025-01-01 16:25	4	19.35	Down	1	No	10
4 2025-01-01 10:37	8	3.22	Up	4	Yes	31
5 2025-01-01 07:31	6	17.32	Up	4	No	50
6 2025-01-01 11:48	1	13.05	Down	5	No	57
7 2025-01-01 12:09	11	11.80	Up	1	No	14
8 2025-01-01 07:53	10	12.45	Up	4	No	49
9 2025-01-01 08:12	11	8.59	Up	4	Yes	46
10 2025-01-01 12:01	8	15.04	Up	1	No	10
11 2025-01-01 19:04	3	13.80	Down	5	Yes	43
12 2025-01-01 08:01	10	11.18	Up	1	Yes	10
13 2025-01-01 16:42	11	12.11	Down	2	No	23
14 2025-01-01 15:27	7	14.63	Down	1	No	10
15 2025-01-01 13:07	8	6.29	Up	9	No	78
16 2025-01-01 19:33	12	24.38	Up	5	Yes	47
17 2025-01-01 18:25	6	16.62	Down	4	Yes	26
18 2025-01-01 18:30	3	11.24	Up	4	Yes	33
19 2025-01-01 19:38	11	15.35	Up	4	Yes	25

Showing 1 to 20 of 300 entries, 7 total columns

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The screenshot displays the RStudio environment. The main window shows a table of t-test results for a variable named 't\_test\_wait'. The table includes columns for Name, Type, and Value. The Environment pane on the right shows the Global Environment with variables 'book', 'elev', and 't\_test\_wait'. The Files pane shows the project directory structure.

Name	Type	Value
t_test_wait	list [10] (S3: htest)	List of length 10
statistic	double [1]	8.531901
parameter	double [1]	299
p.value	double [1]	7.325938e-16
conf.int	double [2]	11.7 12.7
estimate	double [1]	12.2273
null.value	double [1]	10
stderr	double [1]	0.2610556
alternative	character [1]	'two.sided'
method	character [1]	'One Sample t-test'
data.name	character [1]	'elev\$wait_time_seconds'

Environment: Global Environment (126 MiB)

Data:

- book: 21566 obs. of 10 v...
- elev: 300 obs. of 7 vari...
- t\_test\_wait: List of 10

Values:

cross\_t... 'table' int [1, 1:3]...

Files:

- .RData: 1.4 M
- .Rhistory: 5.1 KI
- Custom Office Templates
- Dell
- desktop.ini: 418 B
- My Music
- My Videos
- NetBeansProjects
- Shortcut to Documents (OneDrive - P...): 1.7 KI
- elevator\_traffic.csv: 11 KE
- bookstore\_inventory.csv: 1.6 M

