

SHETH L.U.J. AND SIR M.V. COLLEGE

Aim:- Performing independent two-sample t-tests using `t.test()` with grouping (R).

The screenshot shows the RStudio interface with the following details:

- Console:** Displays R code and its output. The code reads a CSV file "electricity.csv", filters it by class, and performs Welch Two Sample t-test comparing "nswprice" between groups "b'UP'" and "b'DOWN'".
- Environment:** Shows a list of objects in the global environment, including `industry_filter`, `jobs`, `low_occupants_filter`, `my_data`, `region_filter`, `robot_related`, `special_buildings`, `t_test_one`, and `t_test_result`.
- File Explorer:** Shows files in the current directory, including various PDFs, CSVs, and Microsoft Office documents.
- Bottom Status Bar:** Shows system information like battery level, signal strength, and date/time (15-12-2025).

```
> library(dplyr)
> df <- read.csv("electricity.csv")
> print(colnames(df))
[1] "date"      "day"       "period"    "nswprice"   "nswdemand"  "vicprice"
[7] "nswdemand" "transfer"   "class"
> df$class <- as.factor(df$class)
> df$nswprice <- as.numeric(df$nswprice)
> df <- df %>
+   filter(is.na(nswprice), !is.na(class))
> cat("\n--- Independent Two-Sample t-test ---\n")
--- Independent Two-Sample t-test ---
> t_test_result <- t.test(nswprice ~ class, data = df)
> print(t_test_result)

Welch Two Sample t-test

data: nswprice by class
t = -77.126, df = 22148, p-value < 2.2e-16
alternative hypothesis: true difference in means between group b'DOWN' and group b'UP' is not equal to 0
95 percent confidence interval:
-0.03147205 -0.02991203
sample estimates:
mean in group b'DOWN' mean in group b'UP'
0.04483815          0.07553019
>
>
```

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SUBJECT:- Data Analysis With SAS / SPSS / R