ASSIGNMENT 2 :SIT718

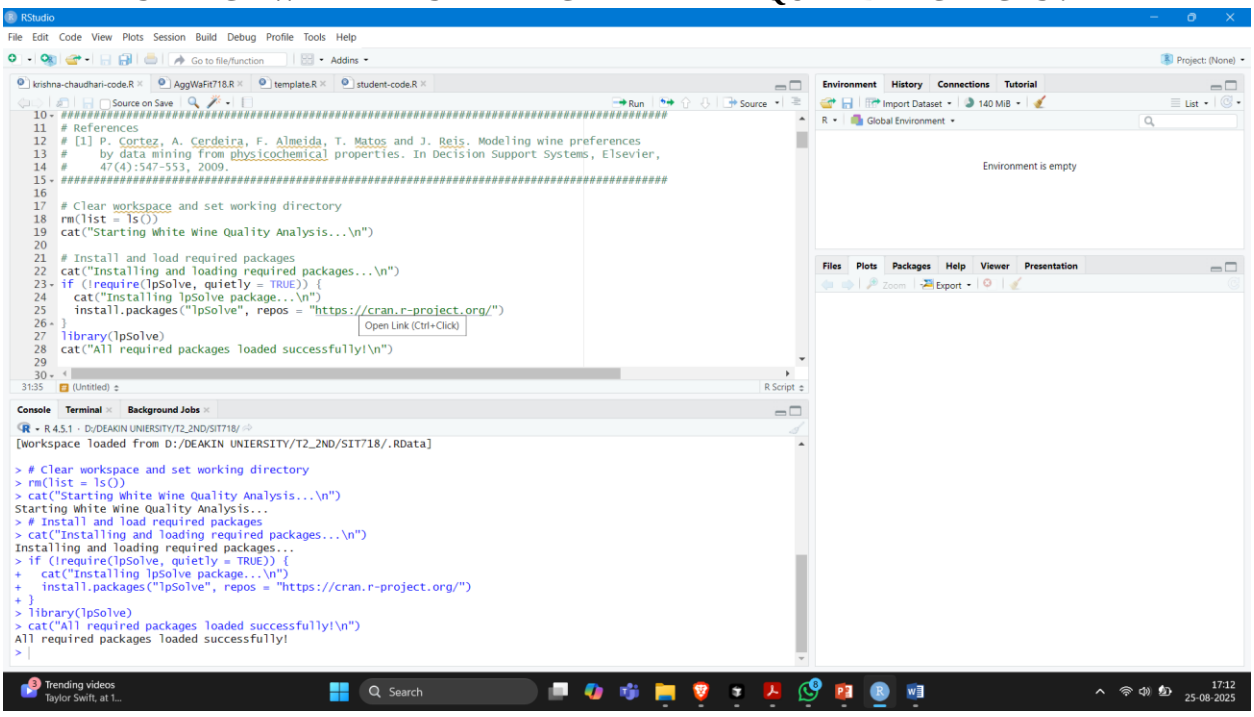
REAL WORLD ANALYTICS

GITHUB REPO LINK :-

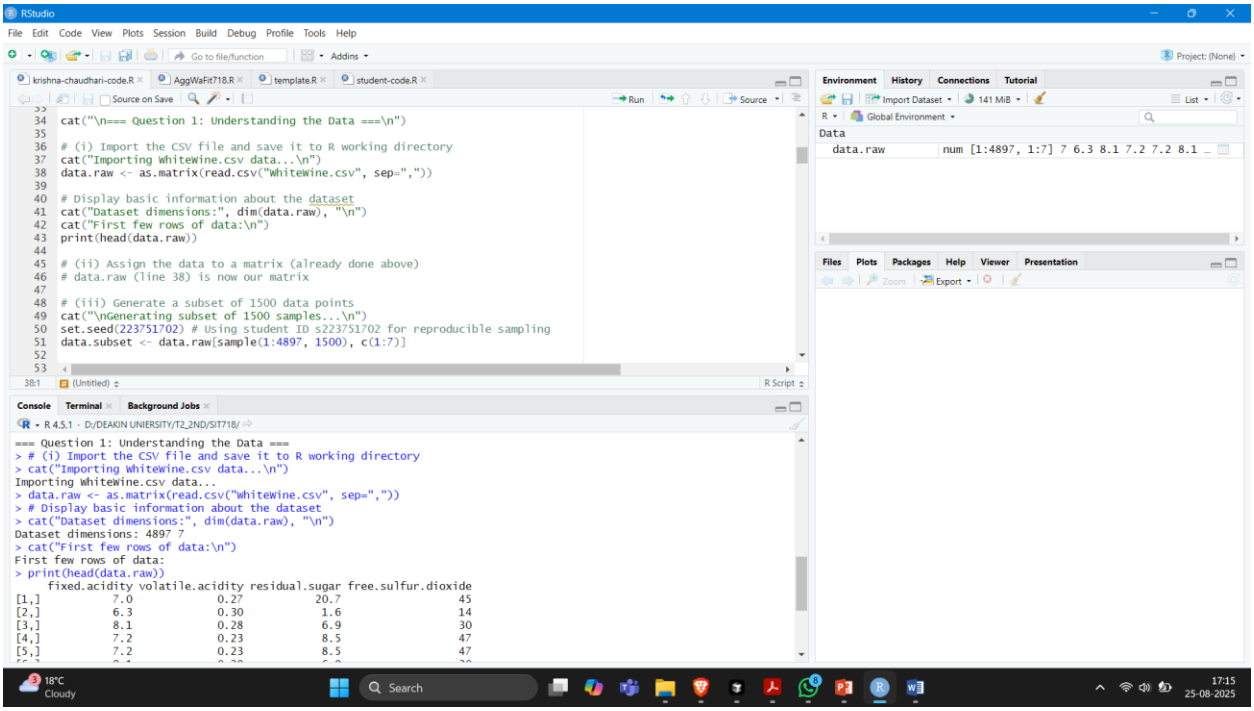
YOUTUBE LINK :- https://youtu.be/EPSnoEJpf5s

CODE OUTPUT PROOF :-

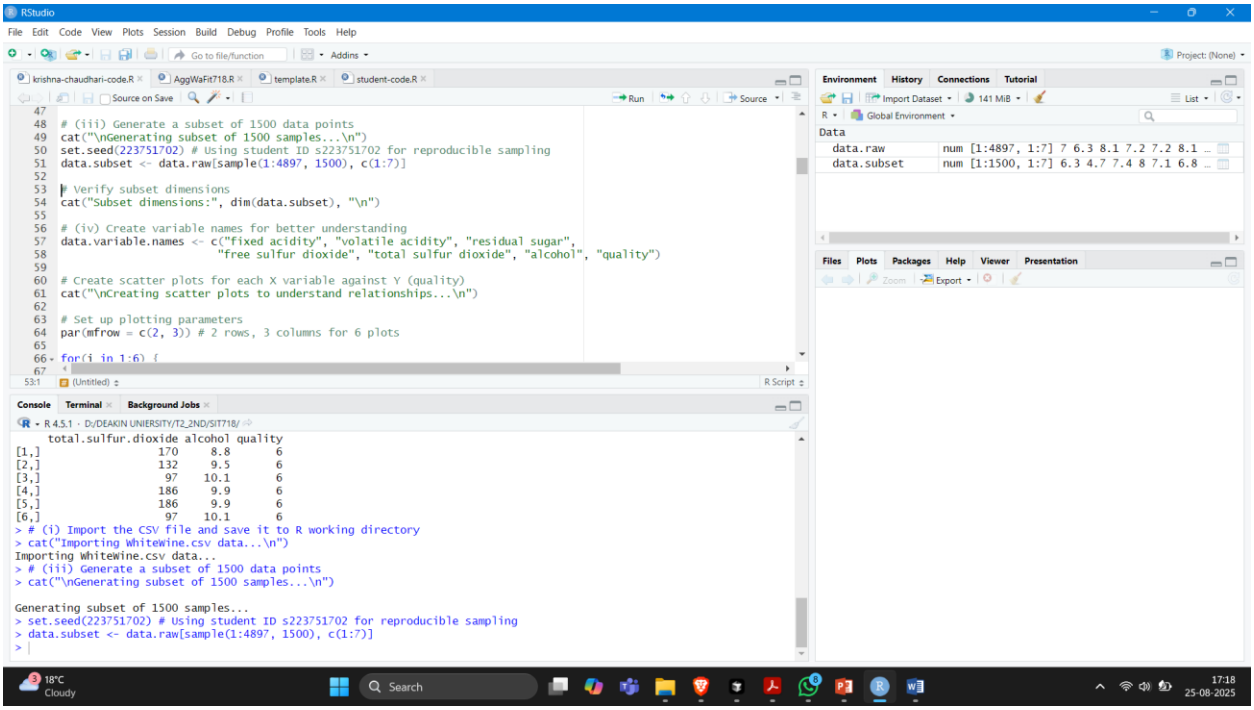
1> IN THIS IMAGE WE ARE INSTALLING ALL THE REQUIRED PACKAGES :



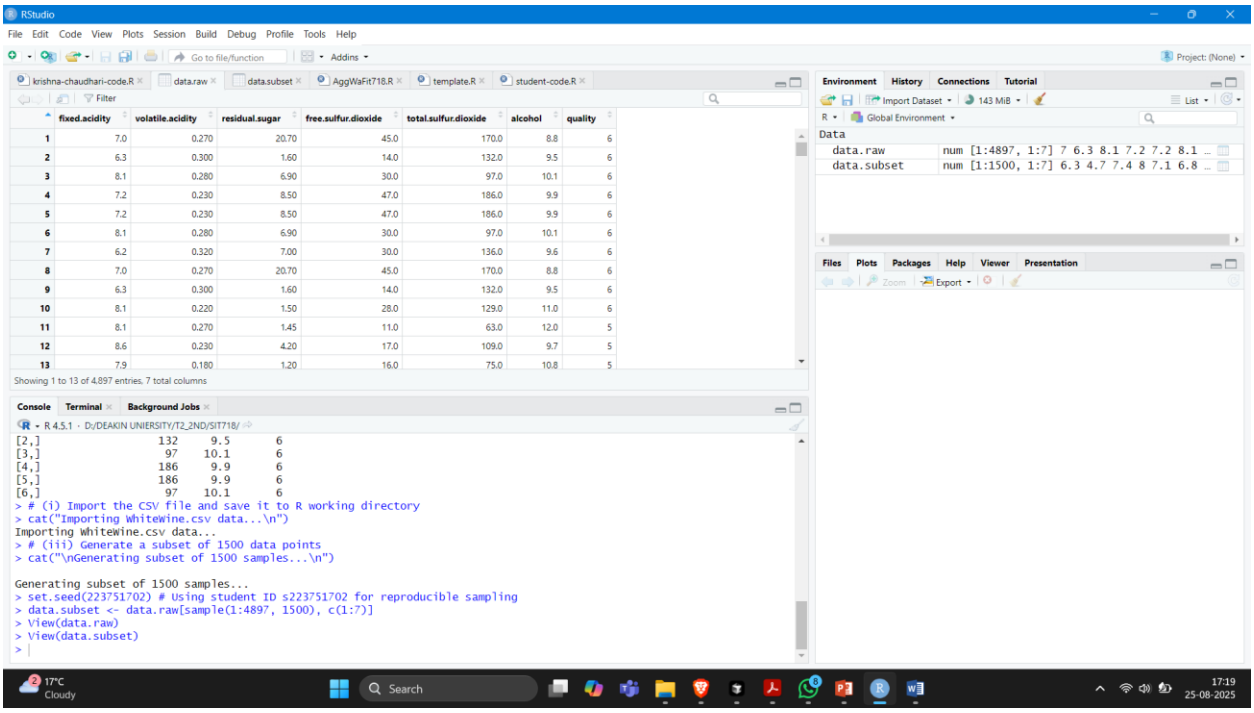
2> IN THIS SCREENSHOT QUESTION 1 SOLUTION HAS BEEN STARTED IN WHICH WE HAD DONE IMPORTING CSV. FILE , GETTING THE DIMENSIONS FOR THE DATASET AND PRINT THE ROWS OF DATA SET



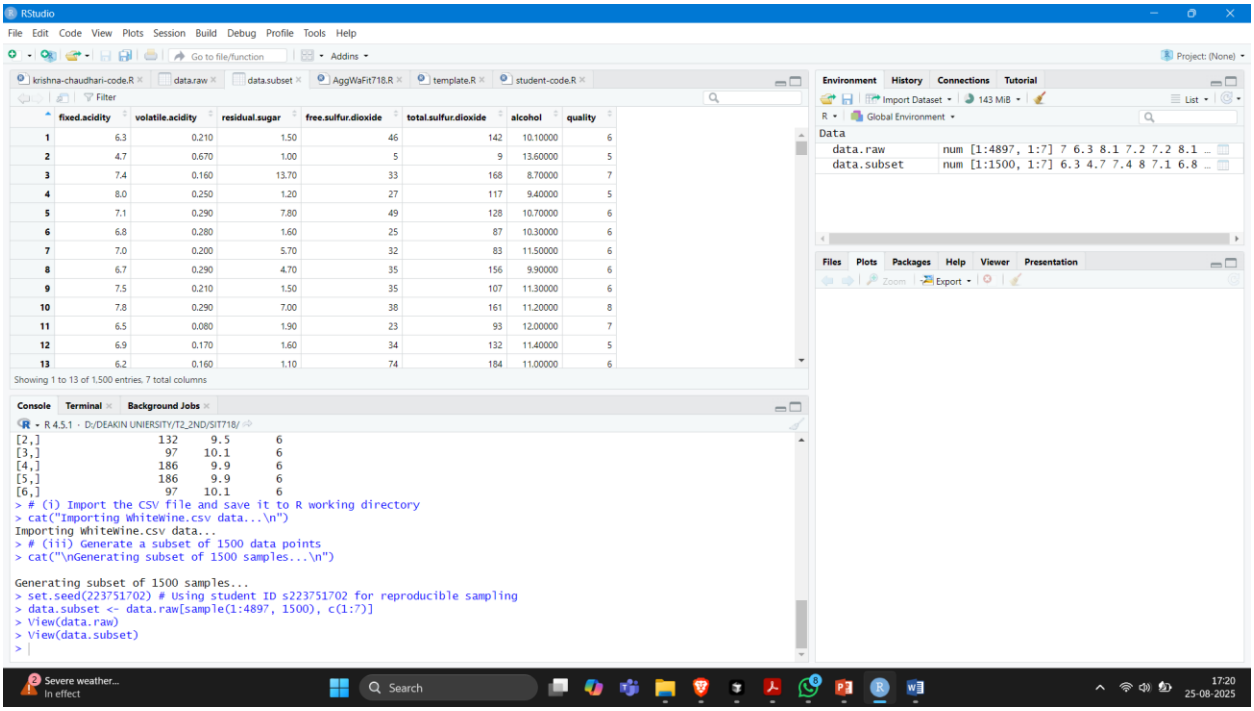
3. NOW WE ARE GENERATING THE SUBSET FOR THE 1500 SAMPLES .



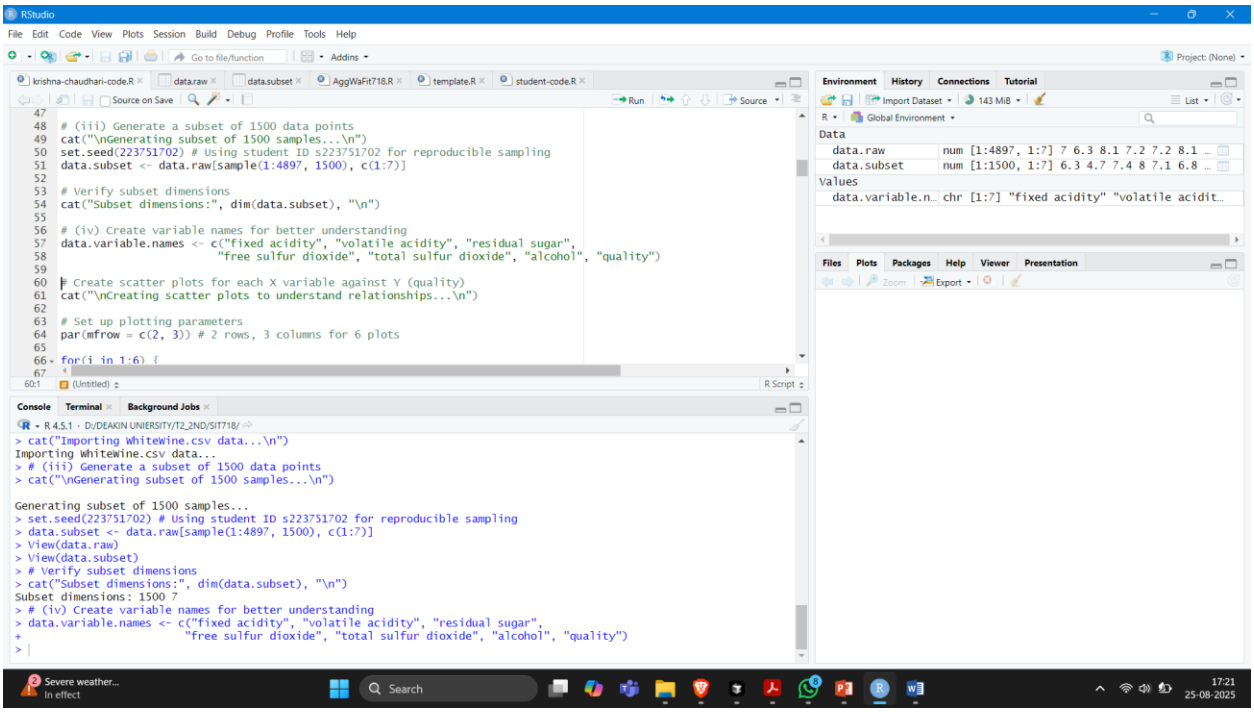
4> AS AN OUTPUT WE GOT AN DATA.RAW

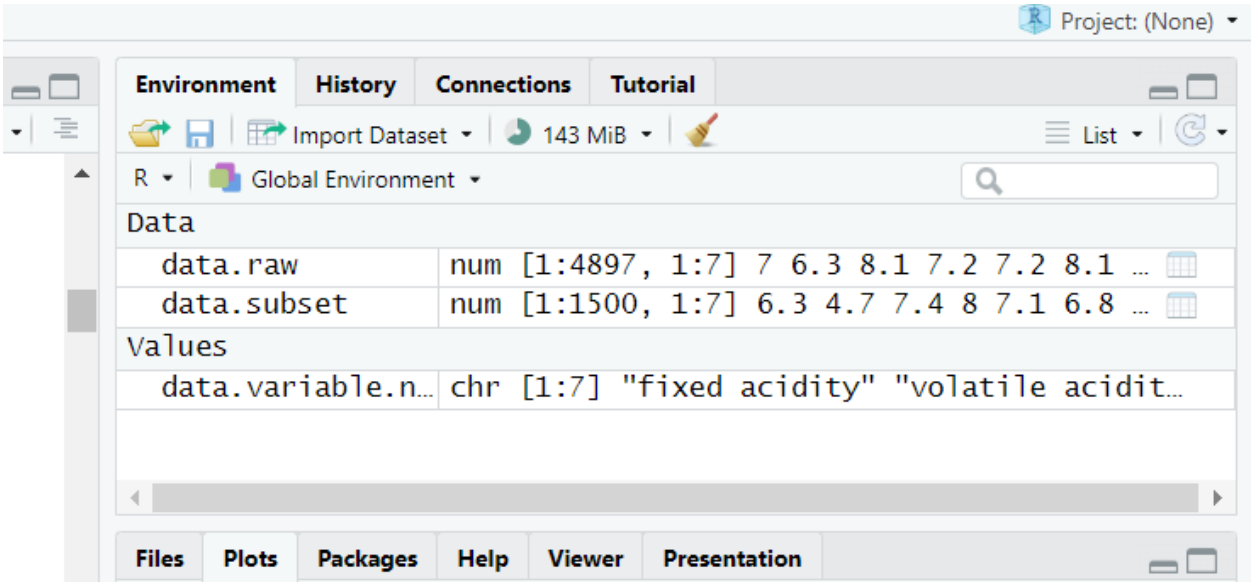


5> AND ANOTHER ONE IS DATASUB.SET

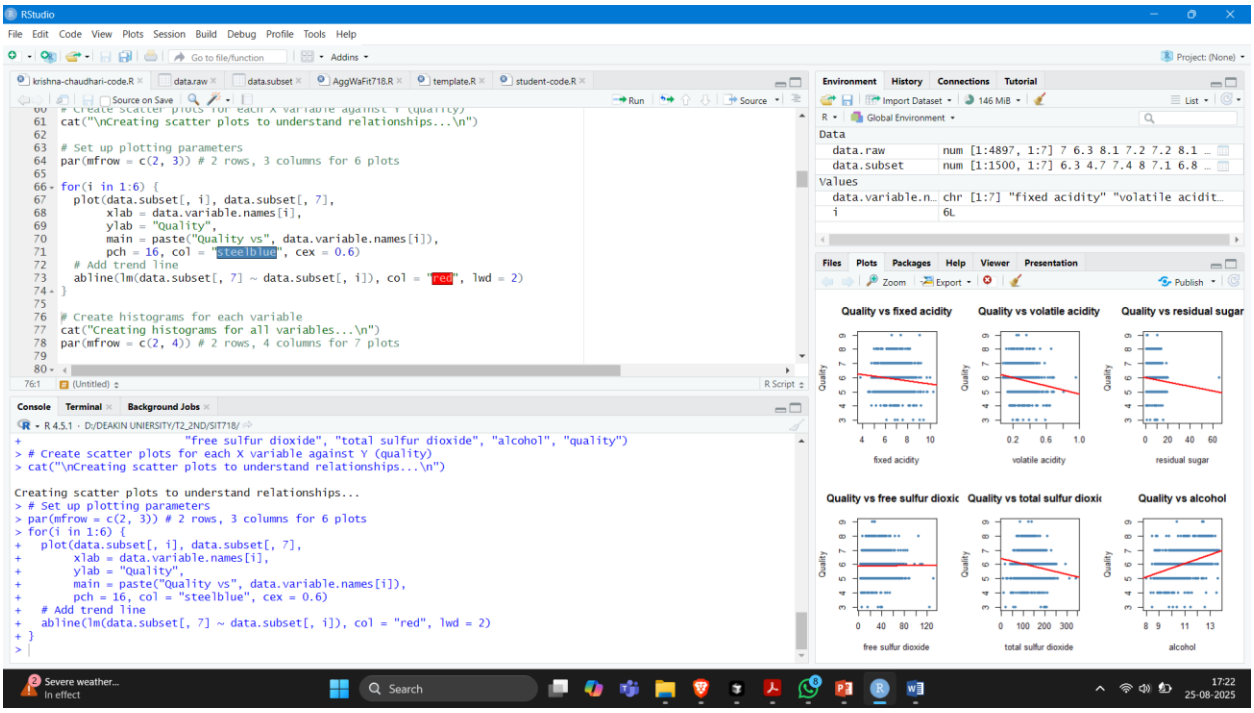


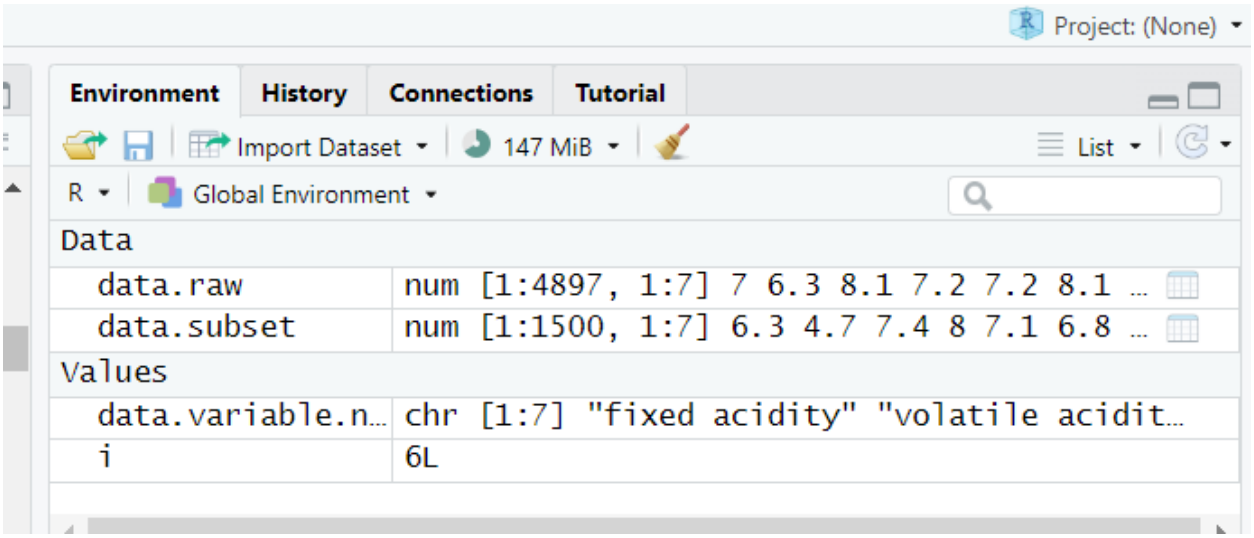
6> NOW WE CREATE THE VARIABLE NAMES OF OWN UNDERSTANDING

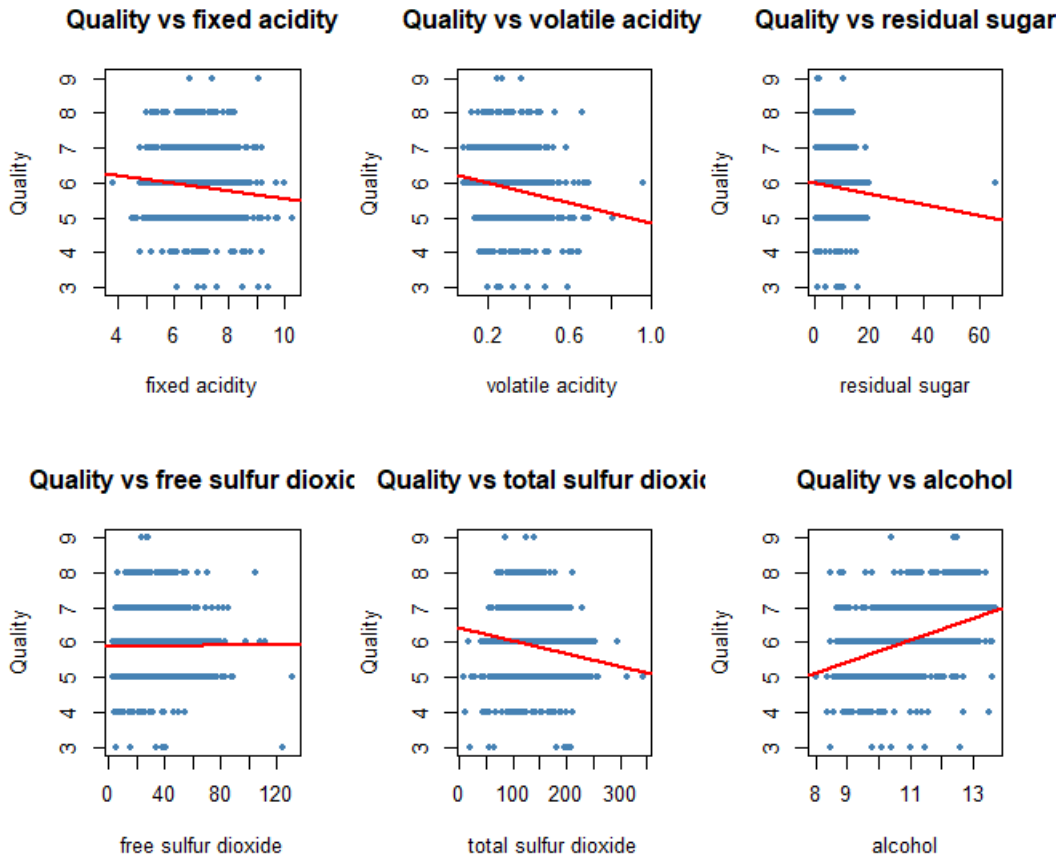




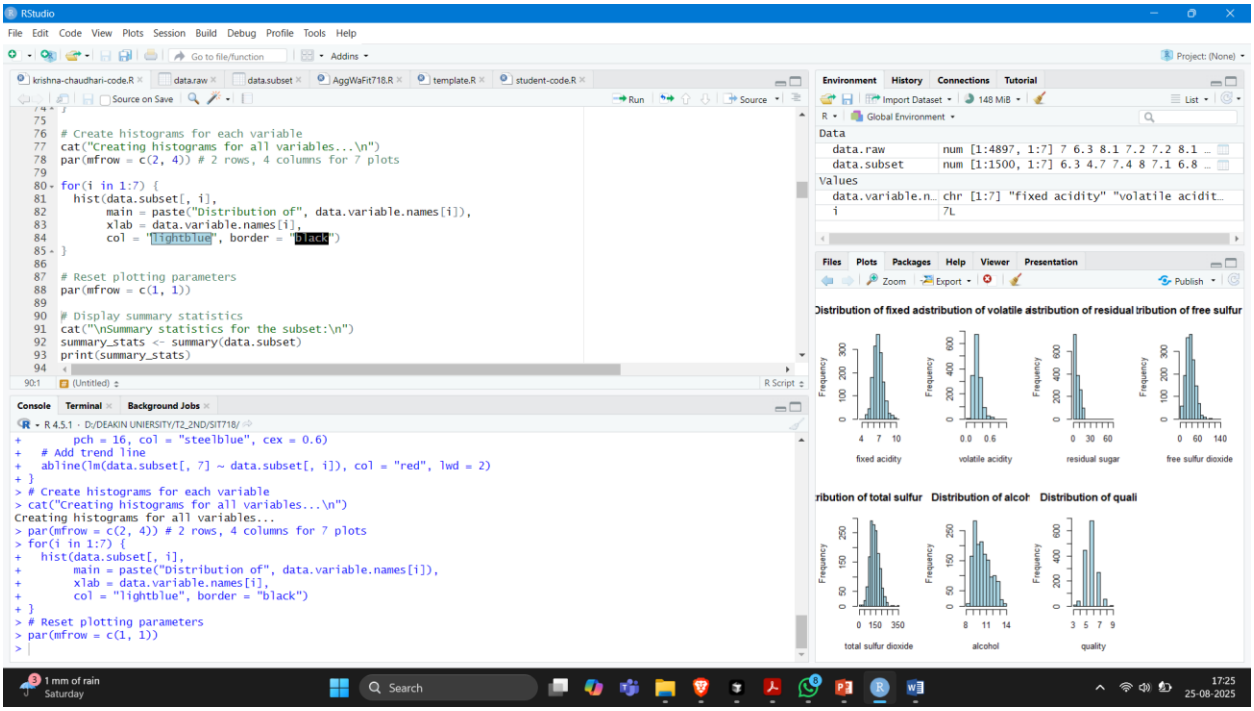
7> NOW WE PLOT THE SCATTER GRAPH FOR EACH VARIABLES , Y QUANITY :

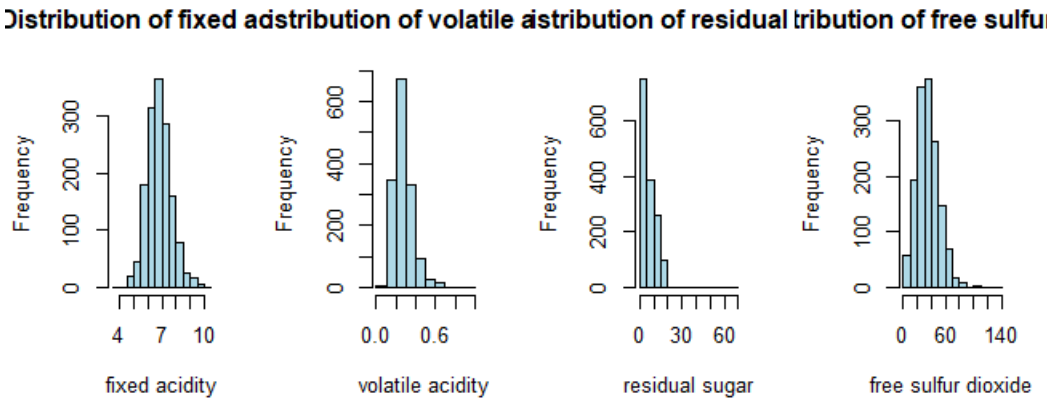


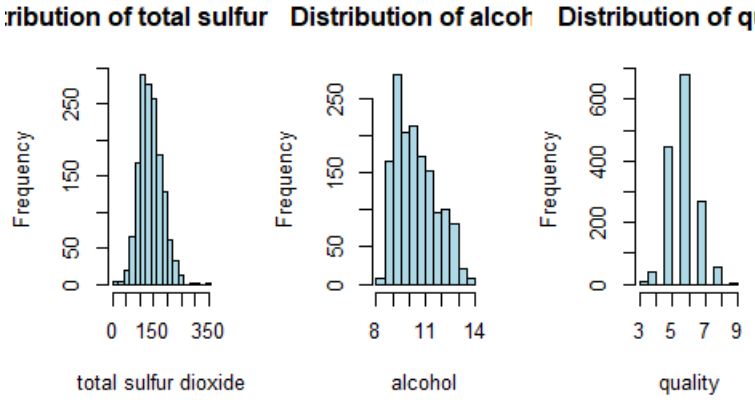




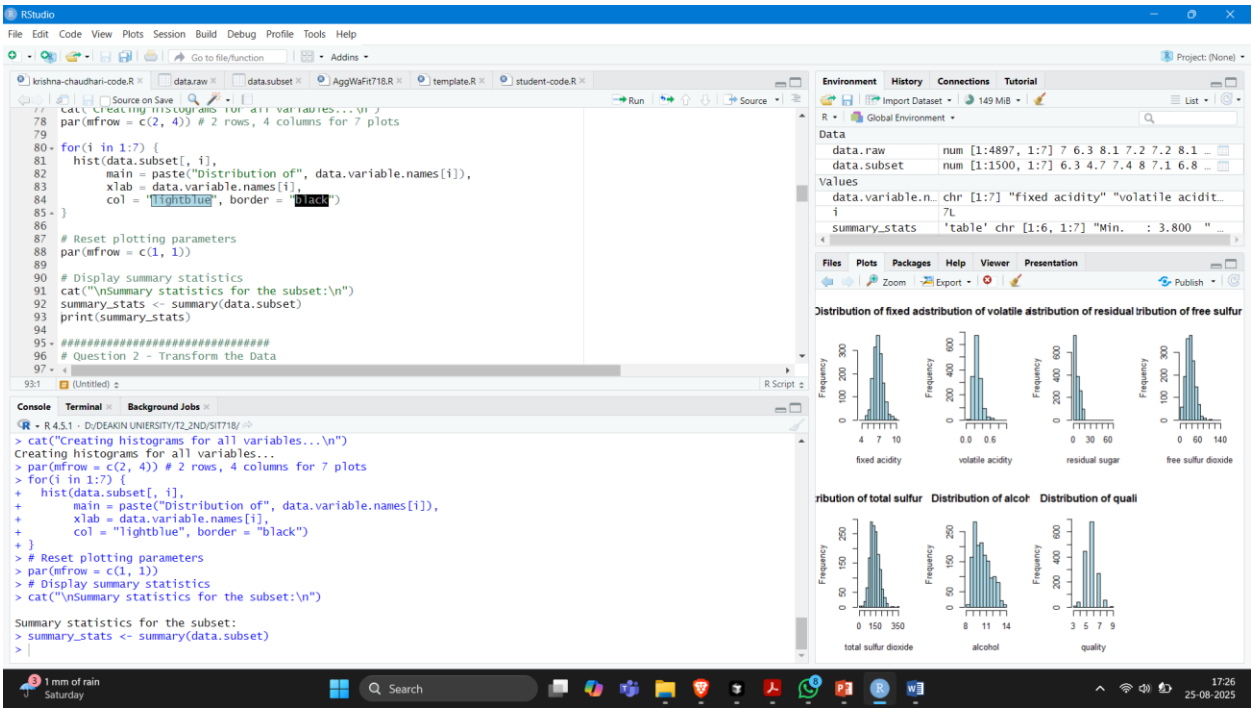
8> NOW WE ARE CREATING THE HISTROGRAMS FOR EACH VARIABLES :







9> THEN WWE SUMMARISED THE SUBSET :

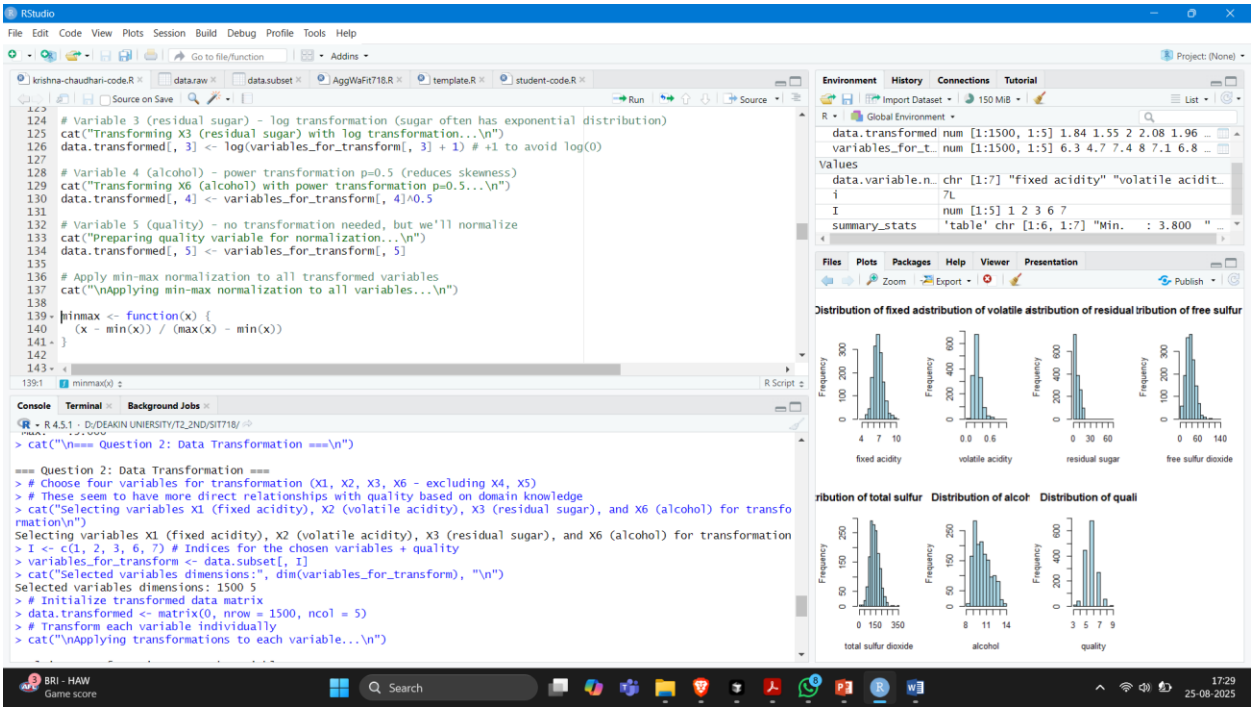


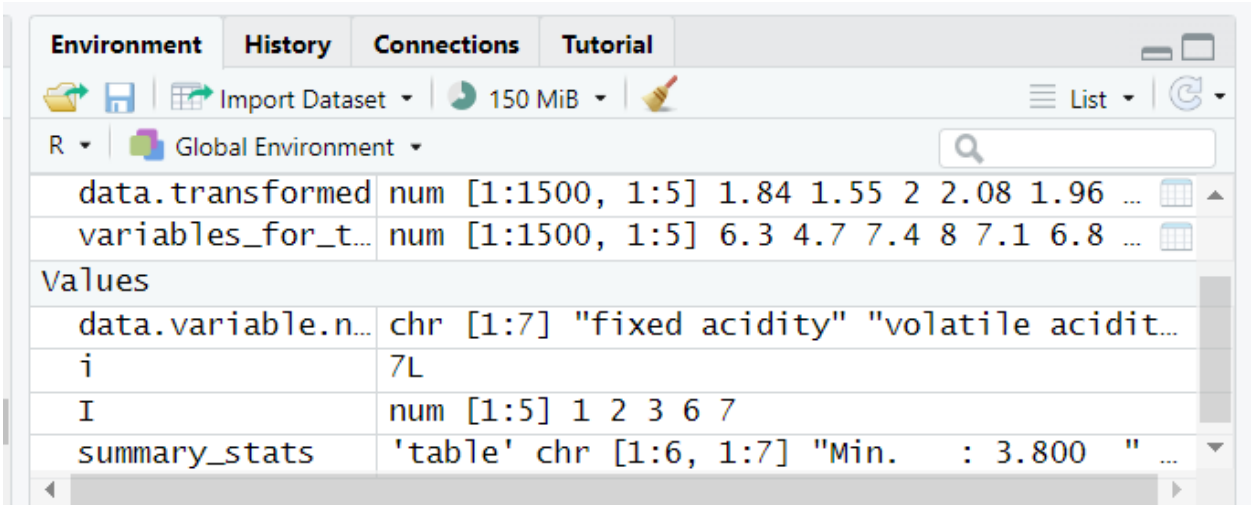
```
> summary_stats <- summary(data.subset)
> print(summary_stats)
 fixed.acidity    volatile.acidity residual.sugar   free.sulfur.dioxide total.sulfur.dioxide    alcohol
 Min.   : 3.800   Min.   :0.0800   Min.   : 0.600   Min.   :  3.00      Min.   :  9.0       Min.   : 8.00
 1st Qu.: 6.300   1st Qu.:0.2100   1st Qu.: 1.700   1st Qu.: 24.00      1st Qu.:110.0       1st Qu.: 9.40
 Median : 6.800   Median :0.2600   Median : 5.000   Median : 34.00      Median :134.0       Median :10.30
 Mean   : 6.851   Mean   :0.2775   Mean   : 6.295   Mean   : 35.46      Mean   :138.1       Mean   :10.48
 3rd Qu.: 7.400   3rd Qu.:0.3300   3rd Qu.: 9.800   3rd Qu.: 45.00      3rd Qu.:165.0       3rd Qu.:11.30
 Max.   :10.300   Max.   :0.9650   Max.   :65.800   Max.   :131.00      Max.   :344.0       Max.   :13.70
    quality
 Min.   :3.000
 1st Qu.:5.000
 Median :6.000
 Mean   :5.897
 3rd Qu.:6.000
 Max.   :9.000
```

QUESTION 2 :

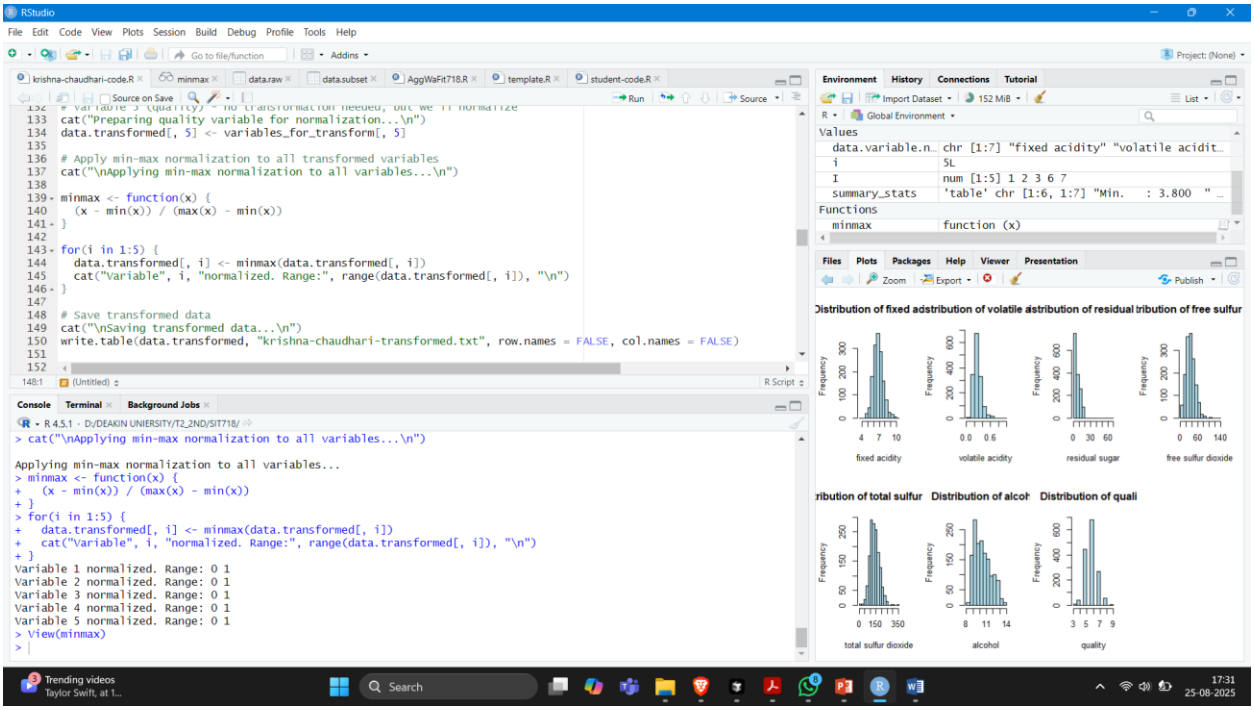
10 > HERE WE HAD APPLIED TRASFRORMATION TO EACH VARIABLE INDIVIDUALLY

•

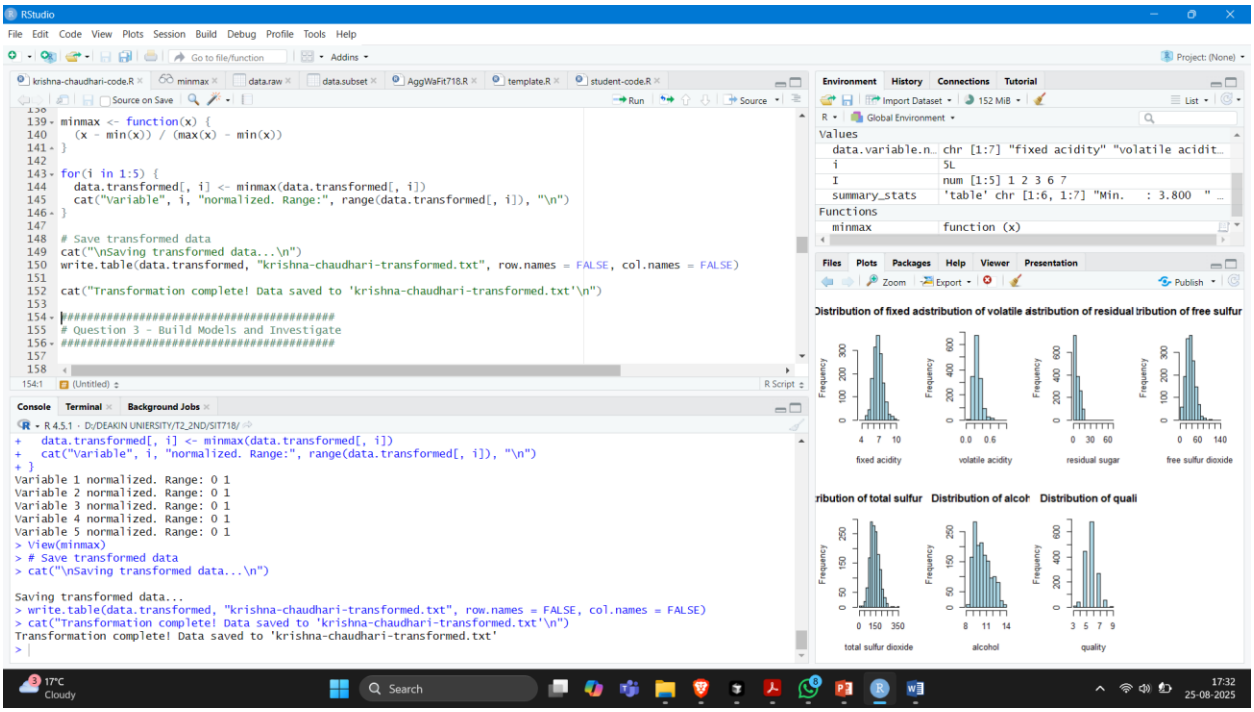


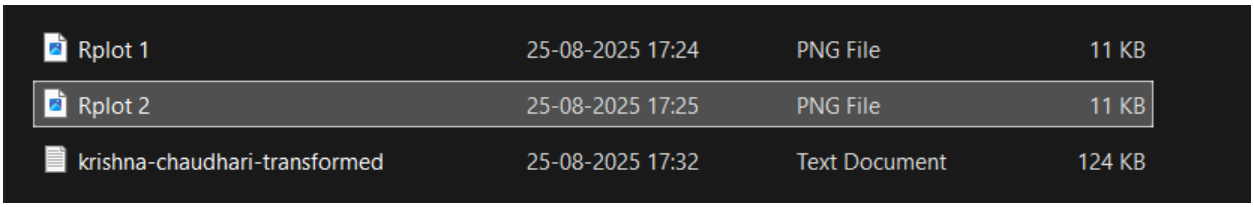


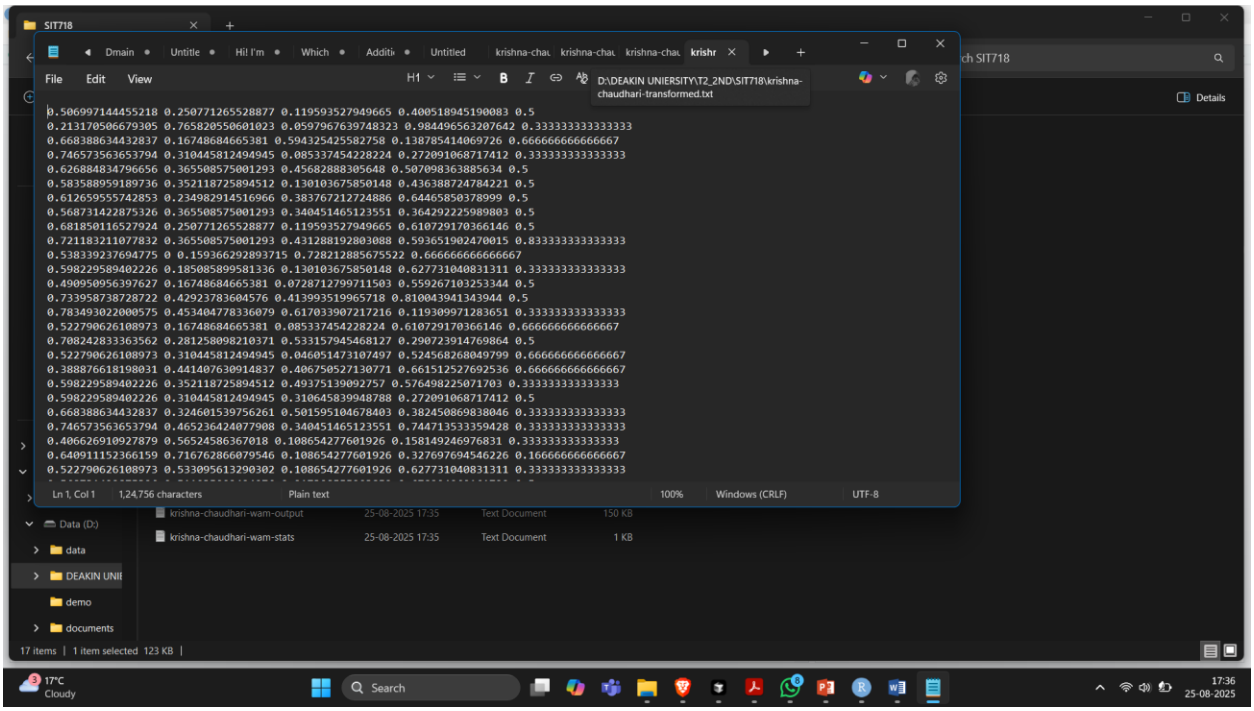
11> NOW APPLYING THE MIN-MAX NORMALIZATION TO ALL THE TRANSFORMED VARIABLES



12>HERE ONCE THE TRANSFORMATION HAD BEEN DONE SO CHANGES HAS BEEN SAVE IN TH E FILE NAMED : KRISHNA-CHAUDHARI-TRANSFORMED.TXT

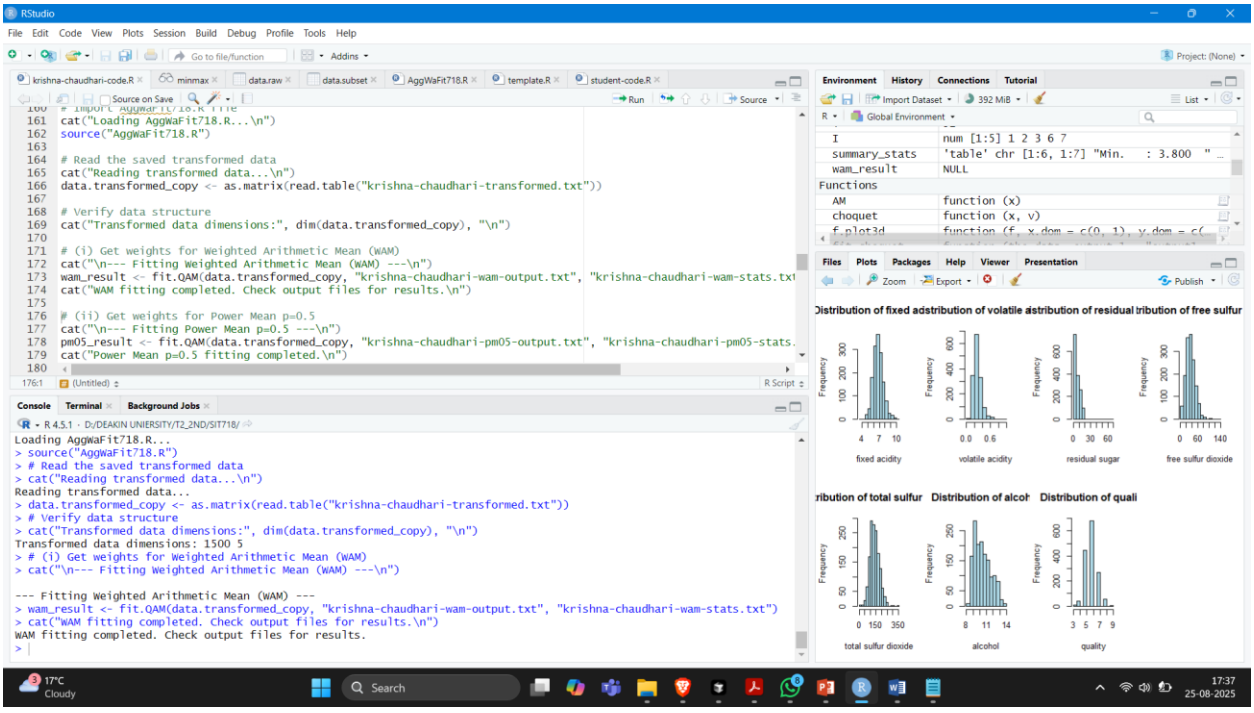


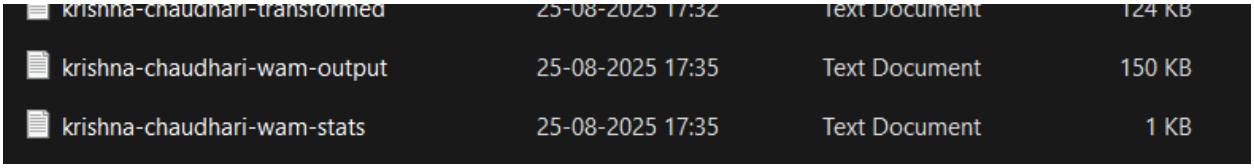


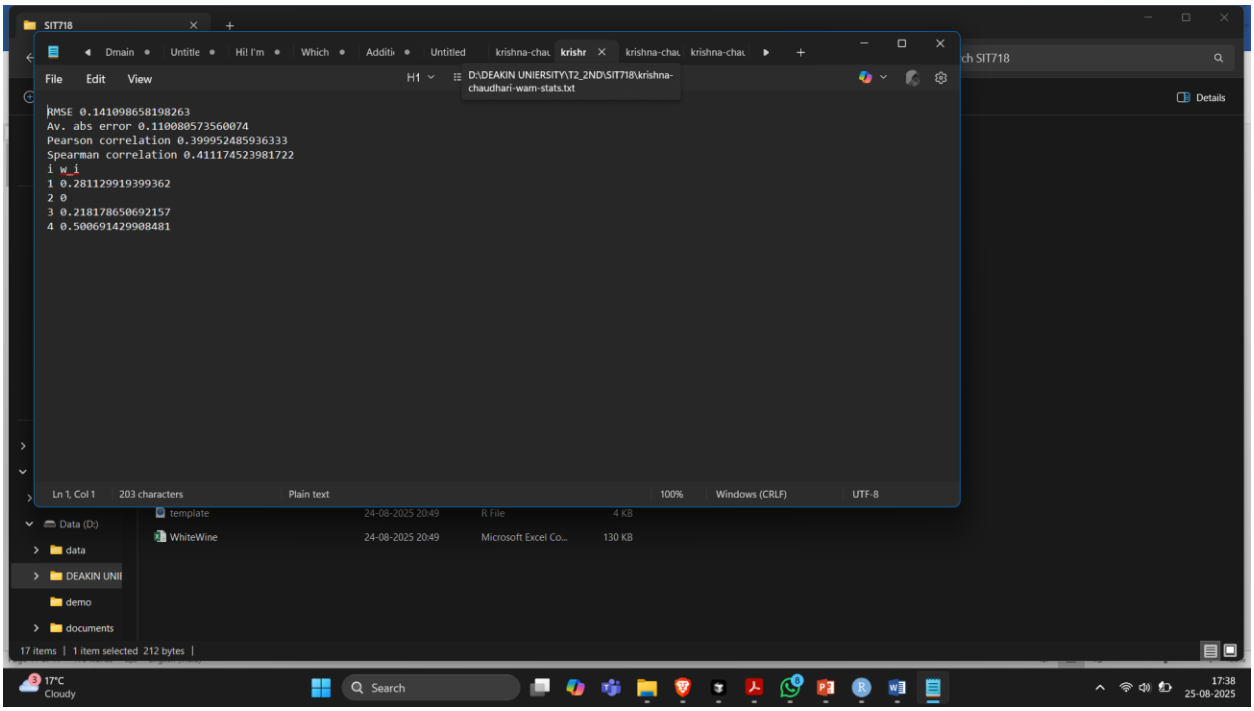


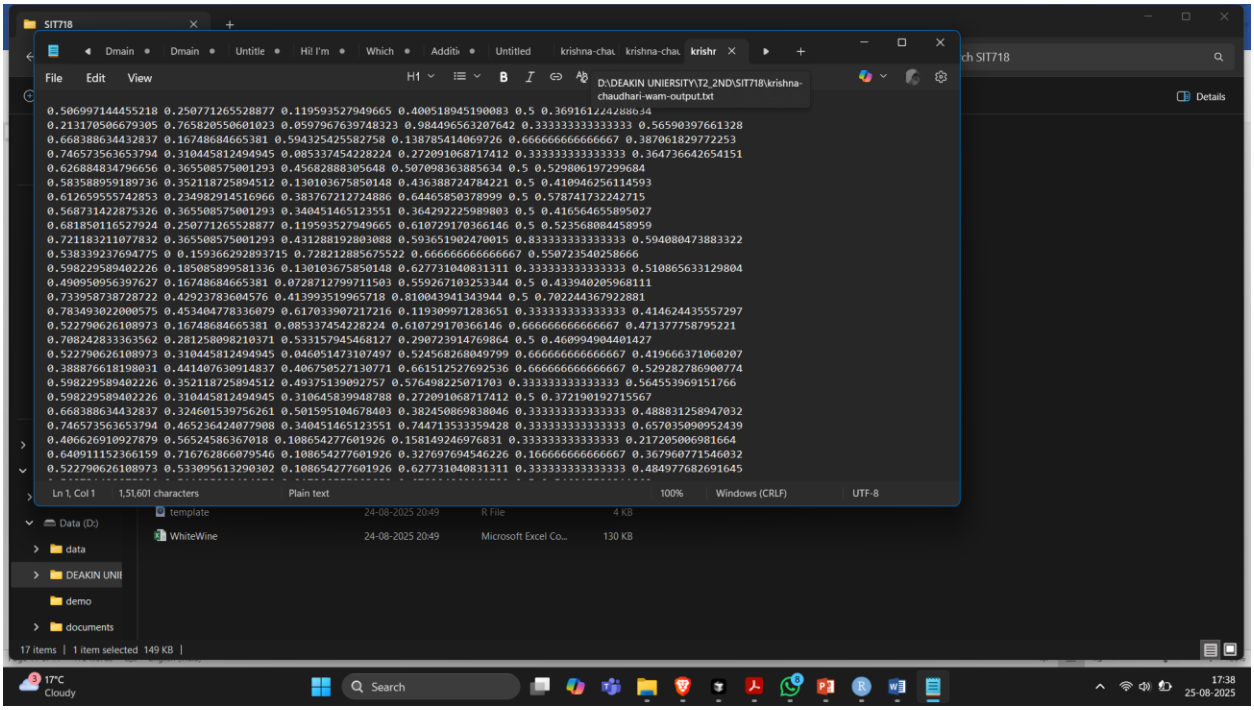
QUESTION 3 :

13> NOW WE WILL BE BUILDING THE MODEL AND INESTIGATE IT .



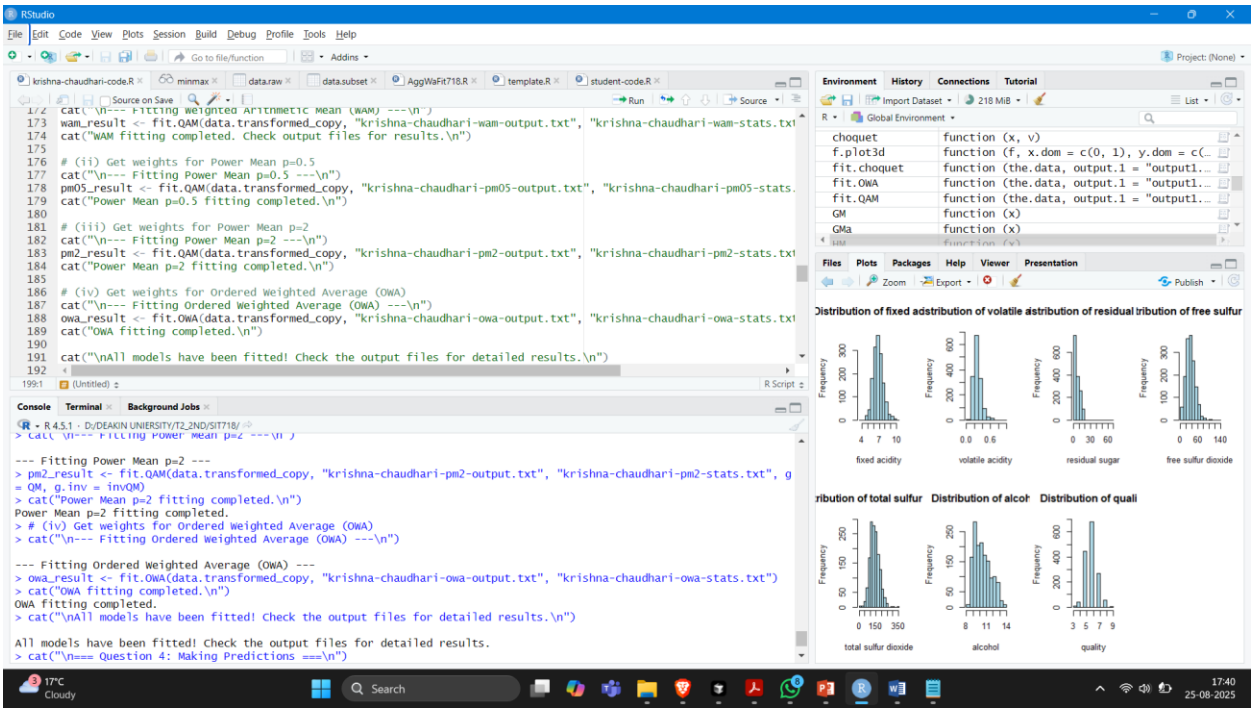


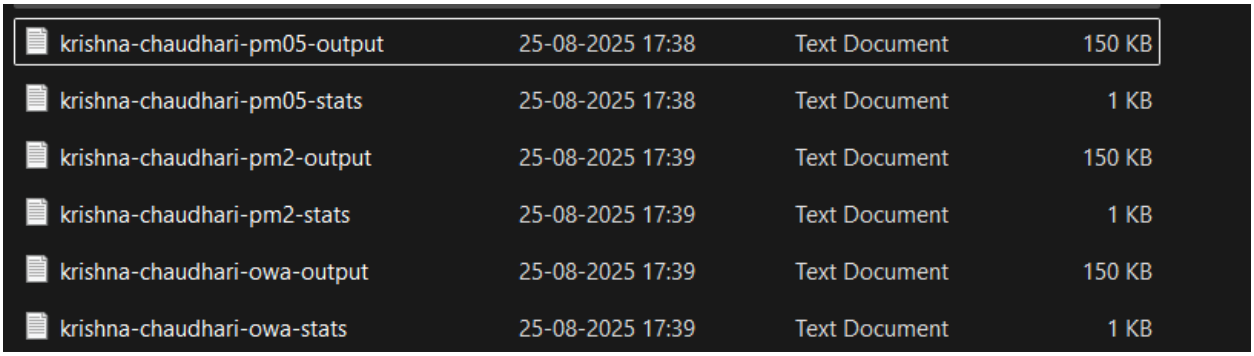




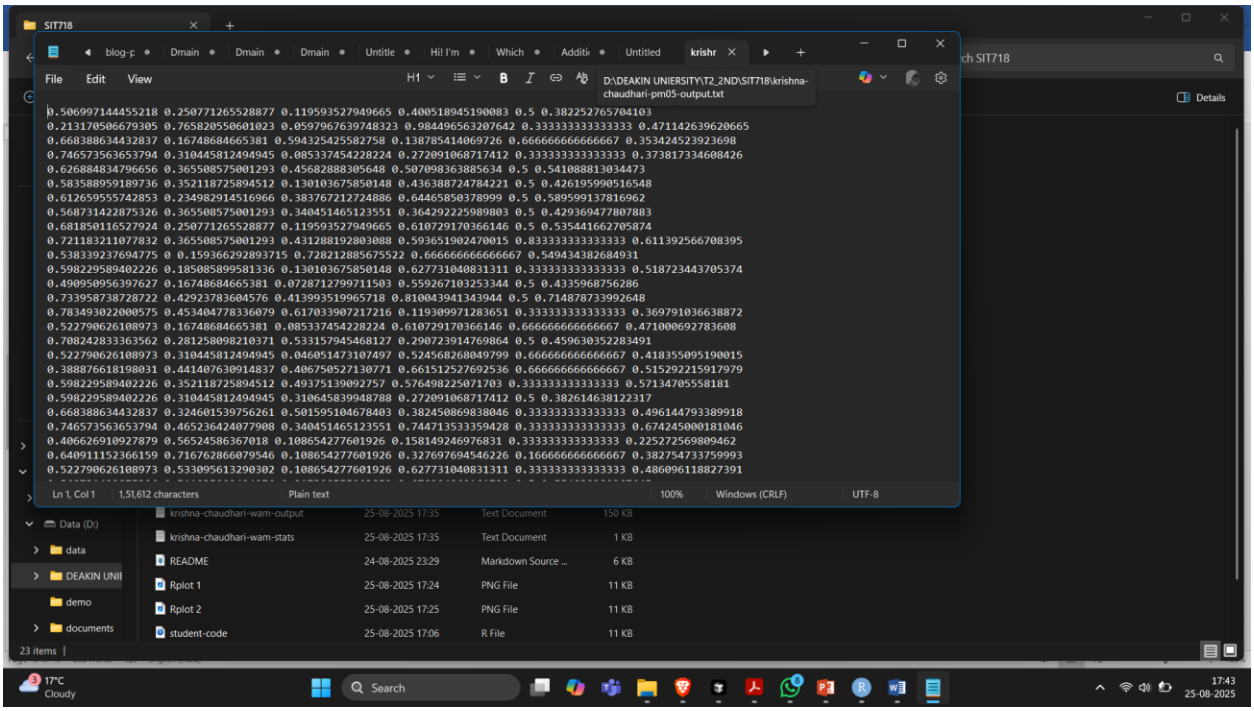
14> NOW WILL CHECK THE FITTING POWER MEAN P=0.5 , P=2 , FITTING ORDERED WEIGHTED AVERAGE (OWA), ALL THE MODELS HAS BEEN FITTED AND CHECKED

PROPERLY .



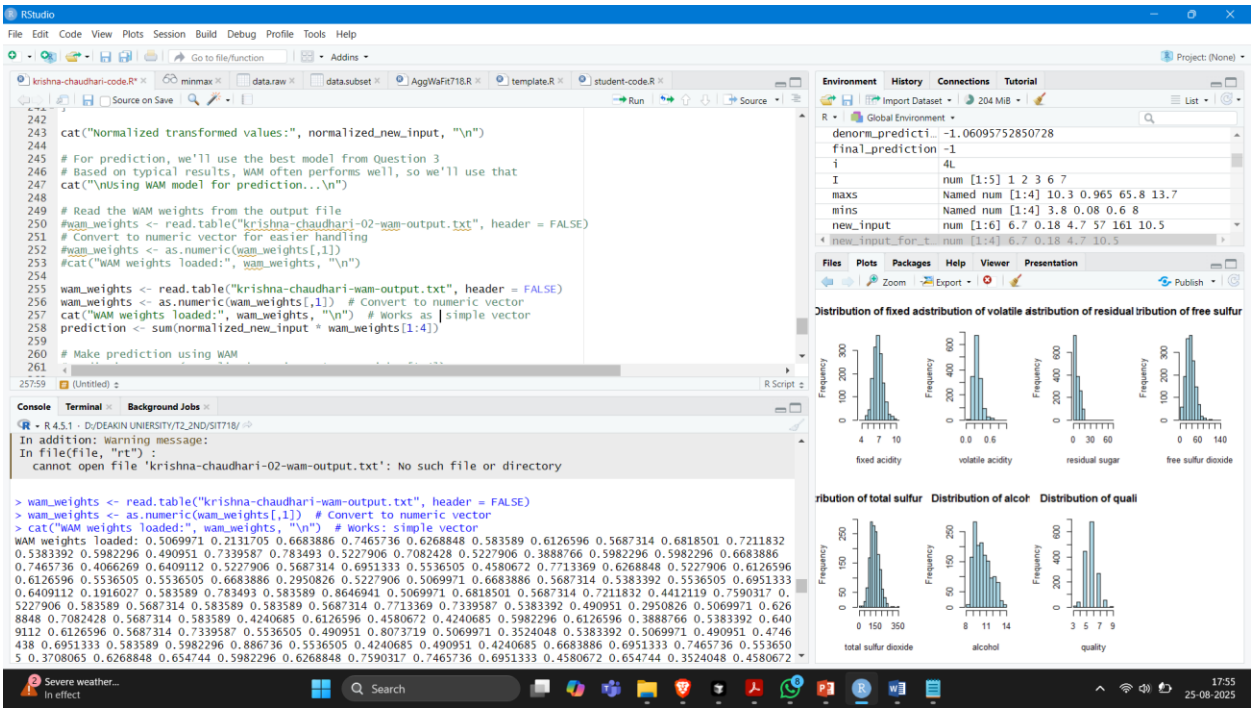


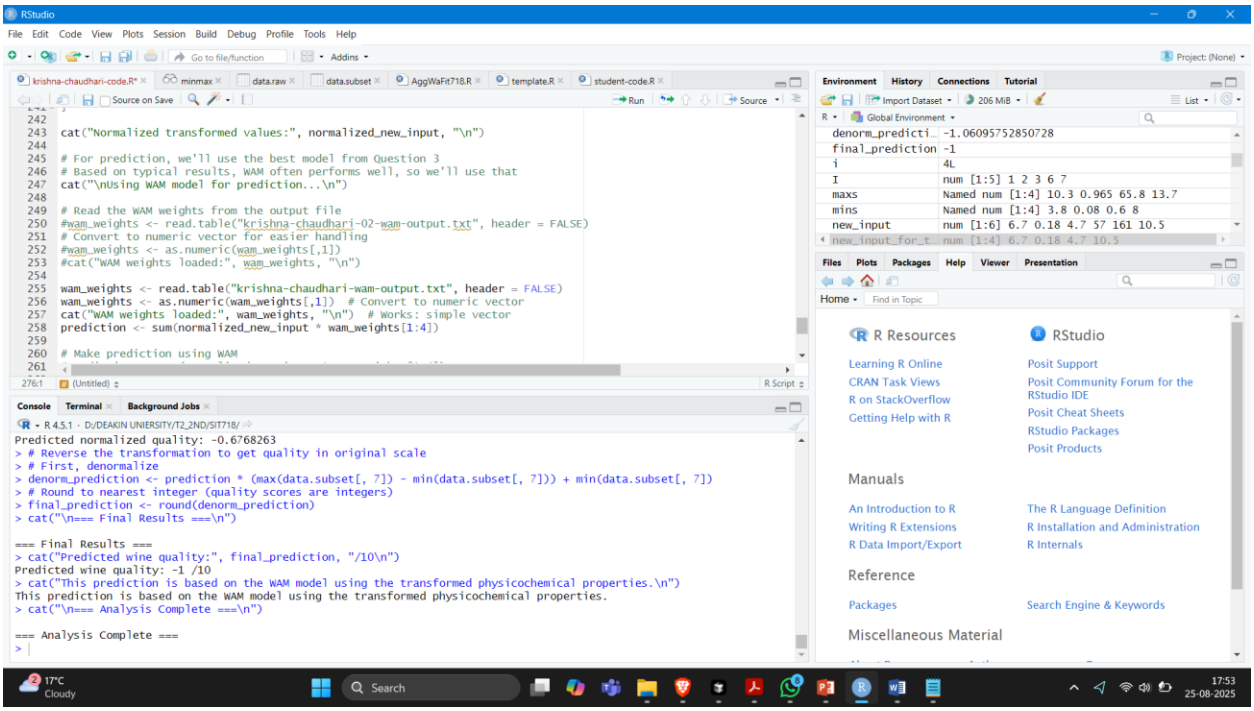
LIKE FITTED P=0.5 EACH MODEL HAS CREATED THE OUTPUT FILES .



QUESTION 4 :

15 > NOW WILL MAKING PREDICTIONS :




RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
krishna-chaudhari-code.R* minmax data.raw data.subset AggWaFit718.R template.R student-code.R
Source on Save Run Source
242
243 cat("Normalized transformed values:", normalized_new_input, "\n")
244
245 # For prediction, we'll use the best model from Question 3
246 # Based on typical results, WAM often performs well, so we'll use that
247 cat("\nUsing WAM model for prediction...\n")
248
249 # Read the WAM weights from the output file
250 #wam_weights <- read.table("krishna-chaudhari-02-wam-output.txt", header = FALSE)
251 # Convert to numeric vector for easier handling
252 #wam_weights <- as.numeric(wam_weights[,1])
253 #cat("WAM weights loaded:", wam_weights, "\n")
254
255 wam_weights <- read.table("krishna-chaudhari-wam-output.txt", header = FALSE)
256 wam_weights <- as.numeric(wam_weights[,1]) # Convert to numeric vector
257 cat("WAM weights loaded:", wam_weights, "\n") # Works: simple vector
258 prediction <- sum(normalized_new_input * wam_weights[1:4])
259
260 # Make prediction using WAM
261
276:1 (Untitled) R Script
Console Terminal Background Jobs
R 4.5.1 · D:/DEAKIN UNIERSITY/T2_2ND/SIT718/
Predicted normalized quality: -0.6768263
> # Reverse the transformation to get quality in original scale
> # First, denormalize
> denorm_prediction <- prediction * (max(data.subset[, 7]) - min(data.subset[, 7])) + min(data.subset[, 7])
> # Round to nearest integer (quality scores are integers)
> final_prediction <- round(denorm_prediction)
> cat("\n=== Final Results ===\n")
=== Final Results ===
> cat("Predicted wine quality:", final_prediction, "/10\n")
Predicted wine quality: -1 /10
> cat("This prediction is based on the WAM model using the transformed physicochemical properties.\n")
This prediction is based on the WAM model using the transformed physicochemical properties.
> cat("\n=== Analysis Complete ===\n")
=== Analysis Complete ===
Environment History Connections Tutorial
Import Dataset 206 MiB List
R Global Environment
denorm_predicti... -1.06095752850728
final_prediction -1
i 4L
I num [1:5] 1 2 3 6 7
maxs Named num [1:4] 10.3 0.965 65.8 13.7
mins Named num [1:4] 3.8 0.08 0.6 8
new_input num [1:6] 6.7 0.18 4.7 57 161 10.5
new_input_for_t... num [1:4] 6.7 0.18 4.7 10.5
Files Plots Packages Help Viewer Presentation
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R Resources
Learning R Online
CRAN Task Views
R on StackOverflow
Getting Help with R
RStudio
Posit Support
Posit Community Forum for the RStudio IDE
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RStudio Packages
Posit Products
Manuals
An Introduction to R
Writing R Extensions
R Data Import/Export
The R Language Definition
R Installation and Administration
R Internals
Reference
Packages
Search Engine & Keywords
Miscellaneous Material
17°C Cloudy
Search
17:53 25-08-2025