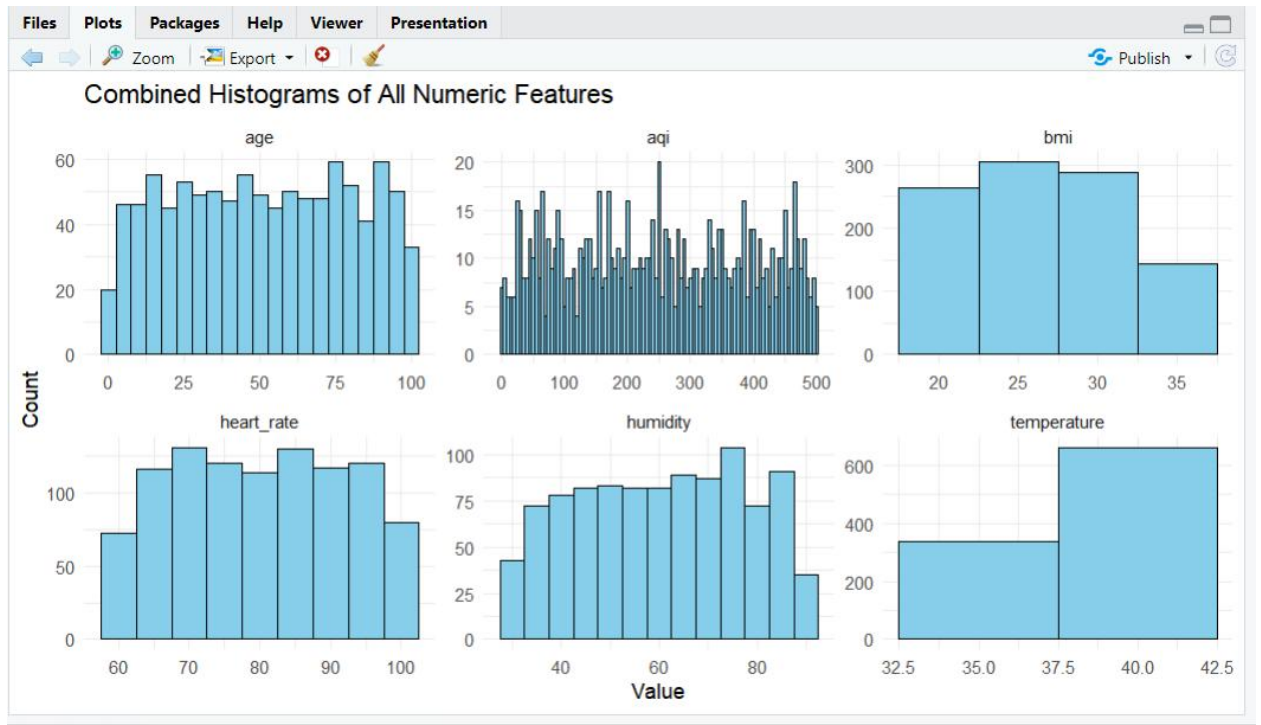


## Lab Task 1:

- Generate Histogram, Bar Chart for single variables where they are appropriate & also generate Scatter and Violin Plots considering all the variables in my dataset.

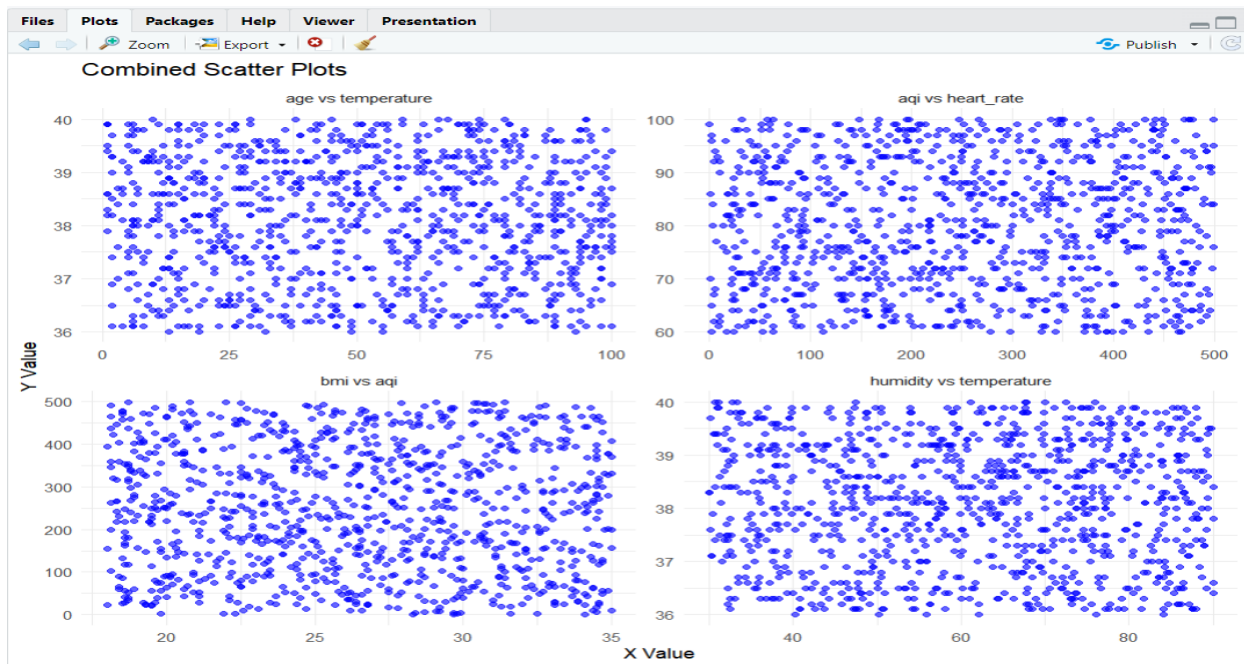
1. This picture shows Histogram graph



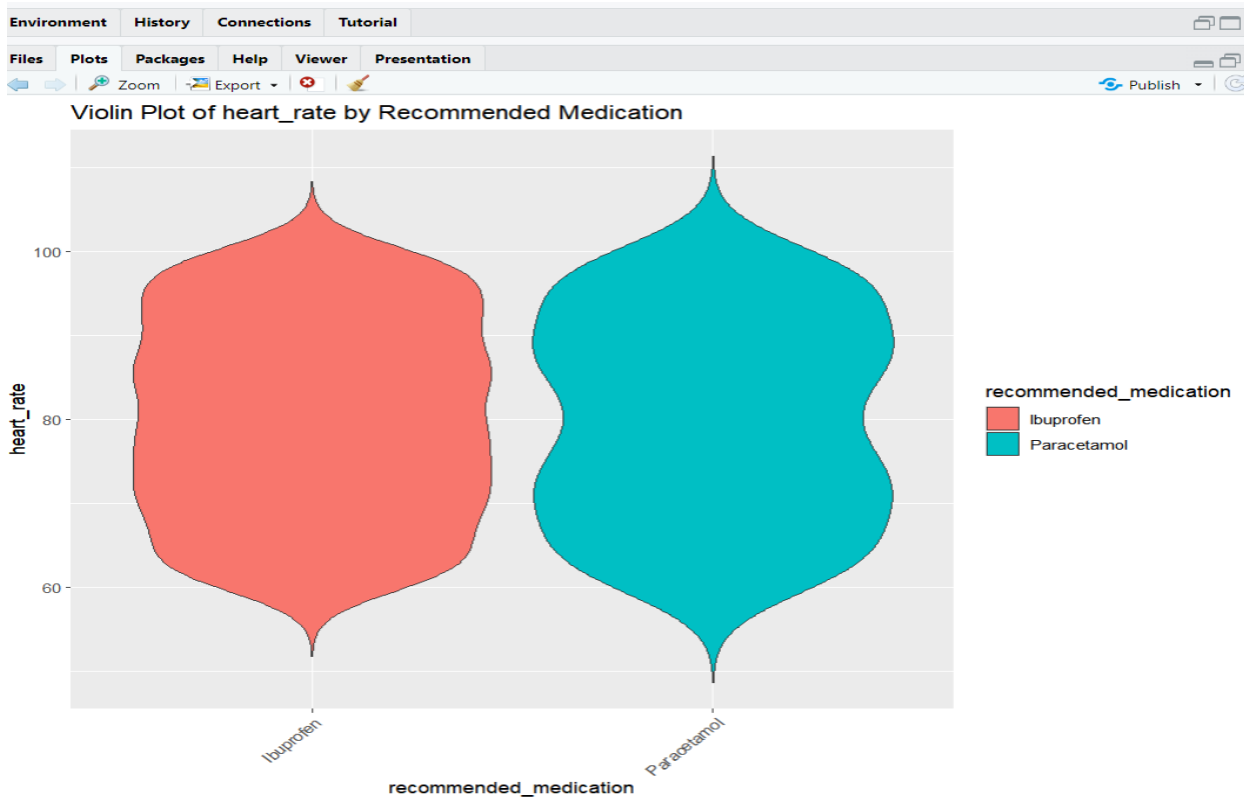
2. This picture shows a Combine Bar Chart



3. This picture shows the Combine Scatter Plots graph



4. This picture shows Violin plot graph against target column “Recommended\_Medication”



## Lab Task 2:

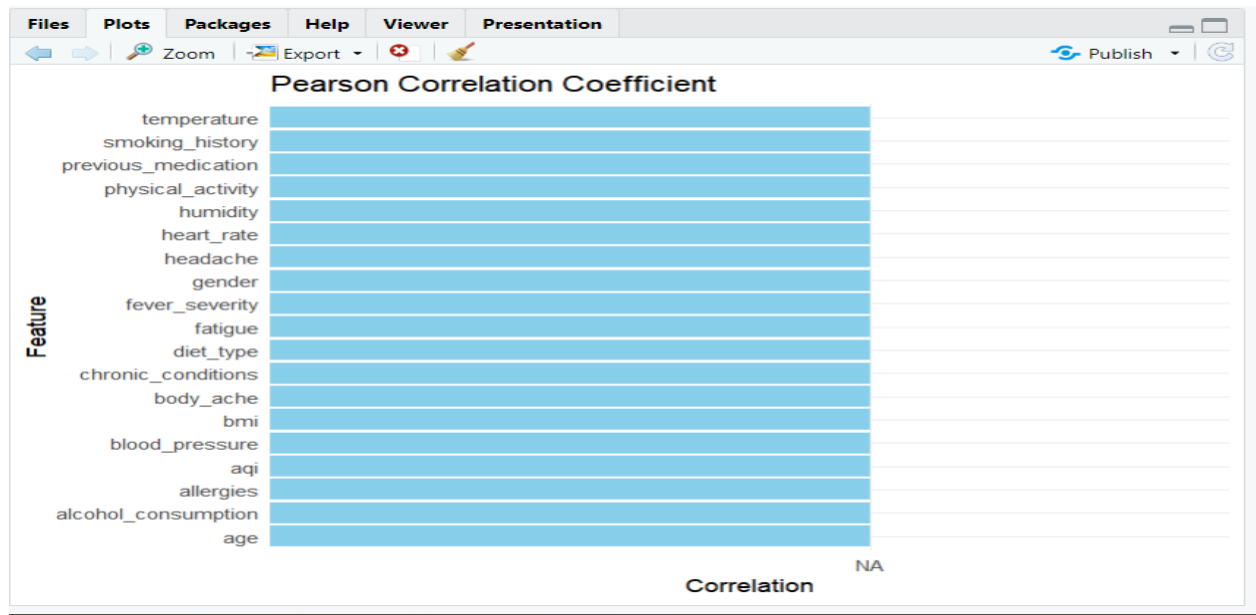
Feature selection methods Pearson correlation coefficient, ANOVA, Chi-squared test, and Mutual Information to all the columns where they are applicable:

1. This picture shows which columns are applicable for which feature selection.

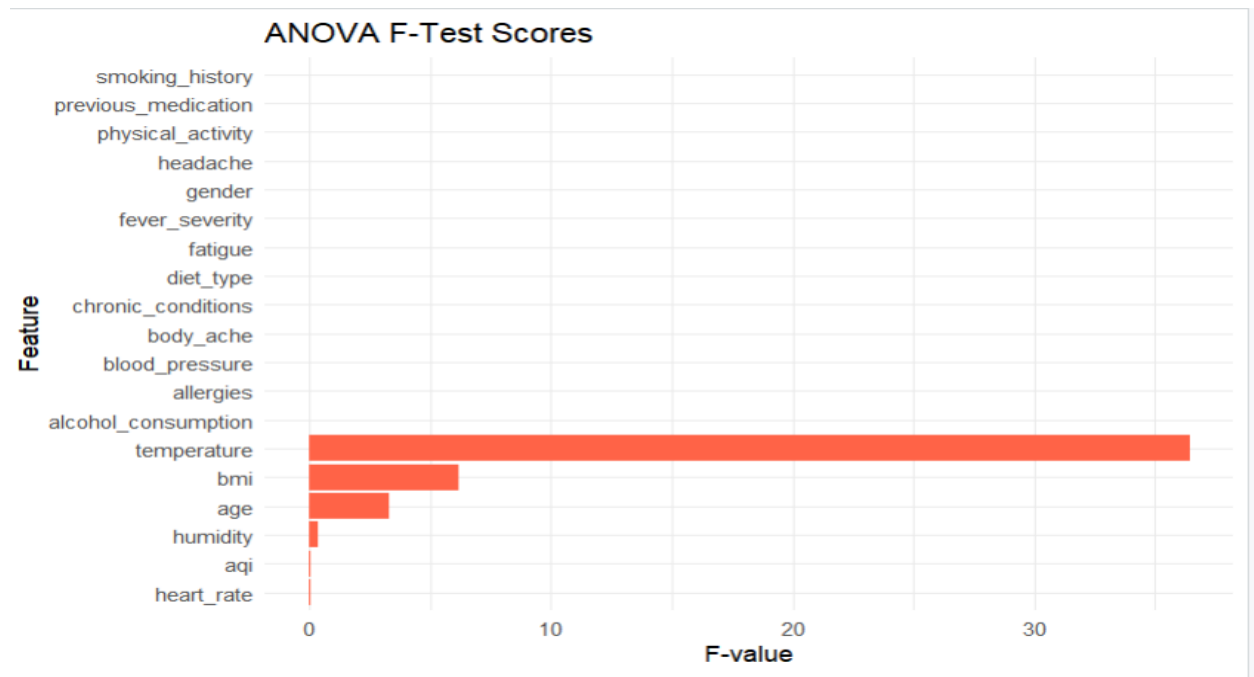
```
73:1 Combine Results R Script
Console Terminal Background Jobs
R 4.4.3 ~ /
+ )
> # Sort by Mutual Information
> results <- results[order(~results$Mutual_Info), ]
> # View results
> print(results)
```

|                     | Feature             | Pearson_Corr | ANOVA_F     | Chi2 | Mutual_Info  |
|---------------------|---------------------|--------------|-------------|------|--------------|
| temperature         | temperature         | NA           | 36.42546366 | NA   | 4.990130e-01 |
| fever_severity      | fever_severity      | NA           | NA          | NA   | 4.990130e-01 |
| previous_medication | previous_medication | NA           | NA          | NA   | 3.321425e-03 |
| body_ache           | body_ache           | NA           | NA          | NA   | 2.304412e-03 |
| alcohol_consumption | alcohol_consumption | NA           | NA          | NA   | 1.034965e-03 |
| fatigue             | fatigue             | NA           | NA          | NA   | 9.977061e-04 |
| chronic_conditions  | chronic_conditions  | NA           | NA          | NA   | 8.705963e-04 |
| blood_pressure      | blood_pressure      | NA           | NA          | NA   | 5.277911e-04 |
| smoking_history     | smoking_history     | NA           | NA          | NA   | 2.117899e-04 |
| diet_type           | diet_type           | NA           | NA          | NA   | 2.069381e-04 |
| physical_activity   | physical_activity   | NA           | NA          | NA   | 2.013861e-04 |
| headache            | headache            | NA           | NA          | NA   | 1.524700e-04 |
| allergies           | allergies           | NA           | NA          | NA   | 1.040734e-04 |
| gender              | gender              | NA           | NA          | NA   | 5.601702e-05 |
| age                 | age                 | NA           | 3.31303799  | NA   | 0.000000e+00 |
| bmi                 | bmi                 | NA           | 6.16158066  | NA   | 0.000000e+00 |
| humidity            | humidity            | NA           | 0.37704072  | NA   | 0.000000e+00 |
| aqi                 | aqi                 | NA           | 0.03090440  | NA   | 0.000000e+00 |
| heart_rate          | heart_rate          | NA           | 0.02966868  | NA   | 0.000000e+00 |

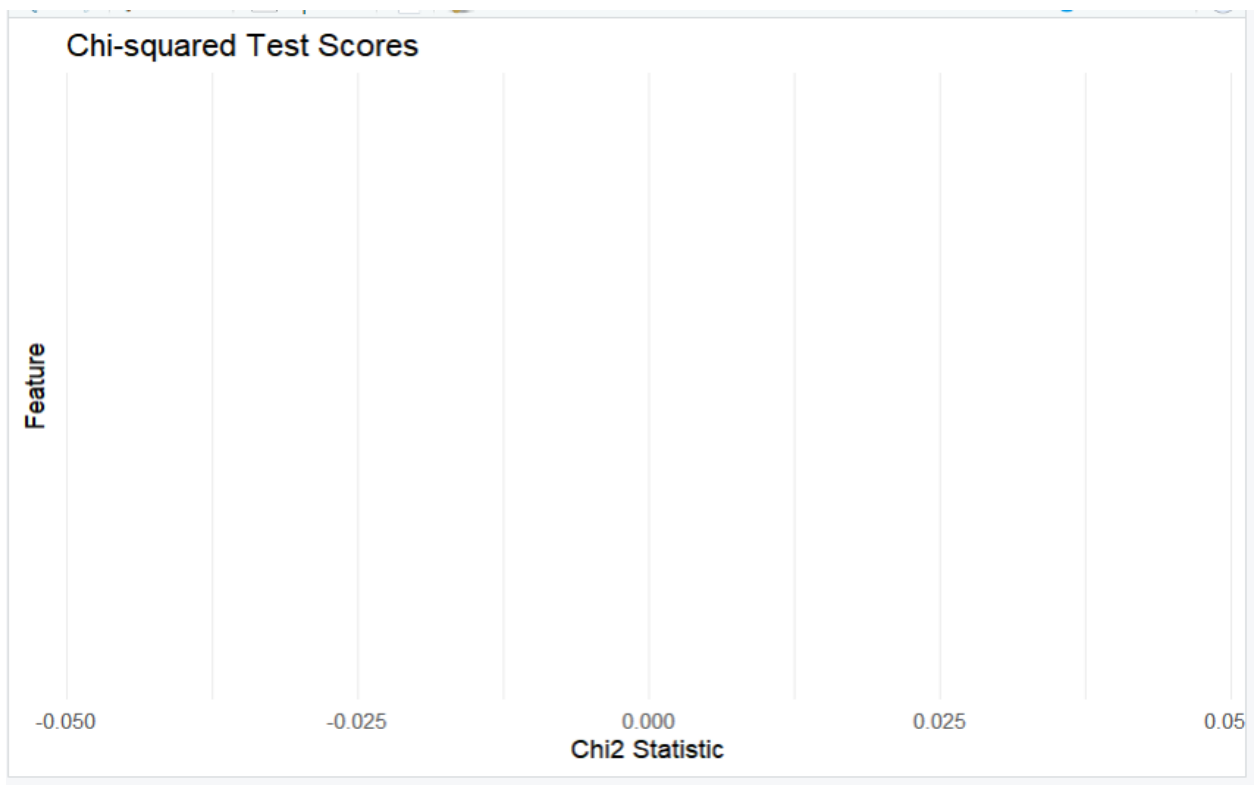
2. This picture shows Pearson correlation coefficient graph



3. This picture shows ANOVA graph



4. This picture shows Chi-squared test graph



5. This picture shows Mutual Information graph

