

Data Visualization

Lab 7: Interactive Visualization using R-Shiny

Problem Statement :

Now we will learn interactive visualization. The series of software that we will try to learn is (i) R-Shiny, (ii) Python Dash (based on plotly) and (iii) D3JS/Plotly.js


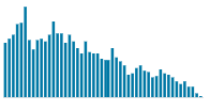
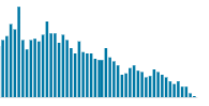

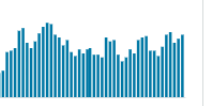

Most important part of interactive visualization is to provide user the input options from where user will change the values and see the different output of the visualization. These inputs may be parameters of the visualization (e.g. number of bin for histogram) or filter values of the data (e.g. population greater than x).

Today we will learn and setup R-Shiny by following the tutorial available

<https://shiny.rstudio.com/tutorial/written-tutorial/lesson1/>

First recreate whatever the tutorial is asking for. Then recreate similar graphs for any file(s) available in the following data set: <https://www.kaggle.com/datasets/kaggle/meta-kaggle>

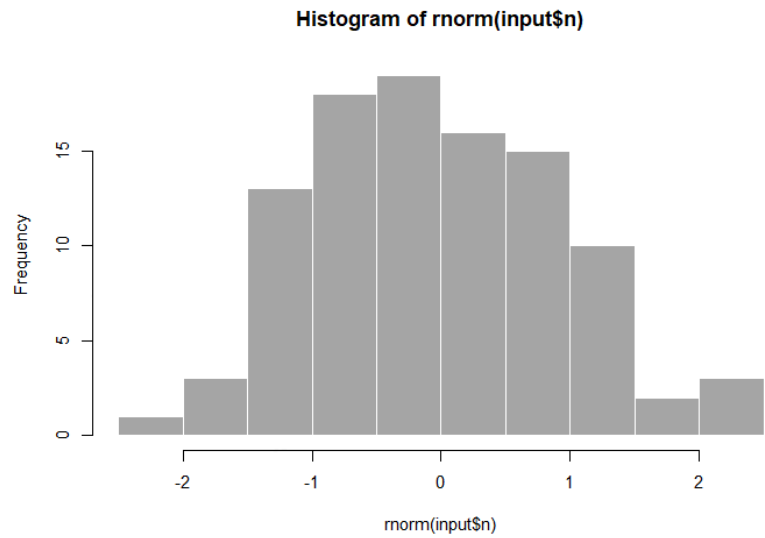
Data File chosen : **Datasets.csv** and **WineQT.csv** from previous labs

Datasets.csv (37.97 MB)					
<div>Detail Compact Column</div> <div>10 of 14 columns</div>					
<div>About this file</div> <div>The Datasets.csv file contains a table of metadata about datasets on Kaggle.</div> <div>Each row in the table represents a single dataset.</div> <div>Add Suggestion</div>					
Id	CreatorUserId	OwnerUserId	OwnerOrganizati...	CurrentDatasetV...	C
Unique identifier for the dataset	Kaggle user ID of the creator of the dataset	Kaggle user ID of the owner of the dataset	Kaggle organization ID of the owner of the dataset	Kaggle dataset version ID of the current version of the dataset	Curn Vers
					
6	1	368	2	58	58
4.61m	19.7m	19.7m	3944	7.86m	850
14	993		4	827864	850

Test.R : (Histogram with variable No. of Obs.)

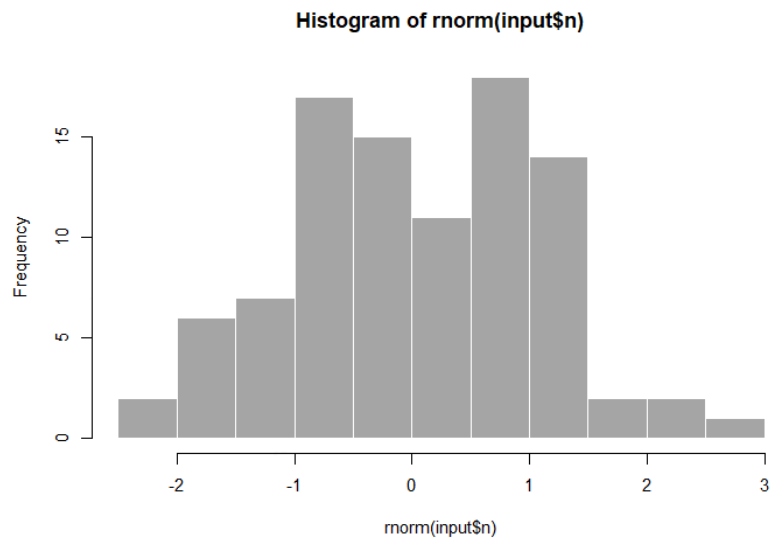
My First Shiny App

Number of observations:



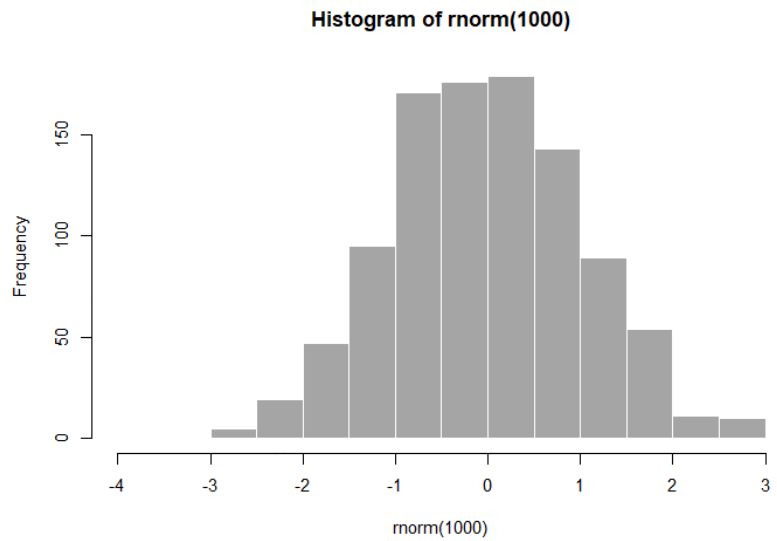
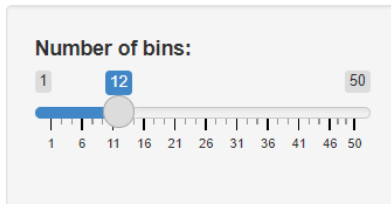
My First Shiny App

Number of observations:

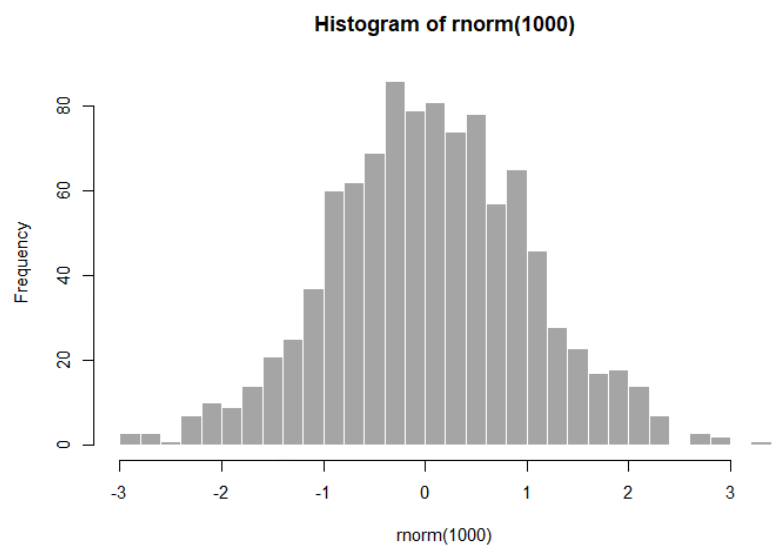
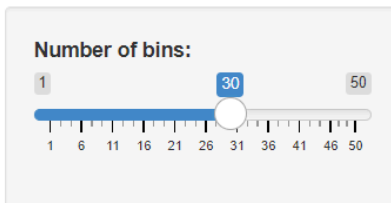


Tut1.R : (Histogram with variable No. of Bins)

Simple Histogram

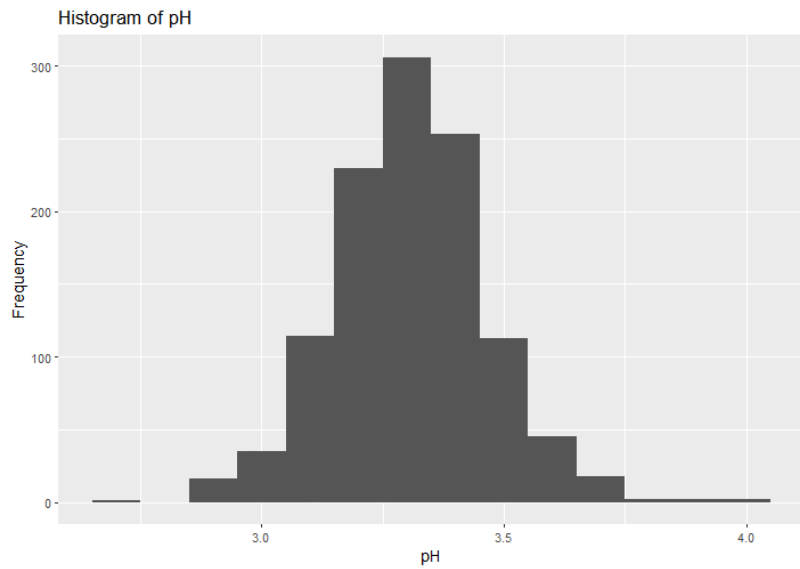
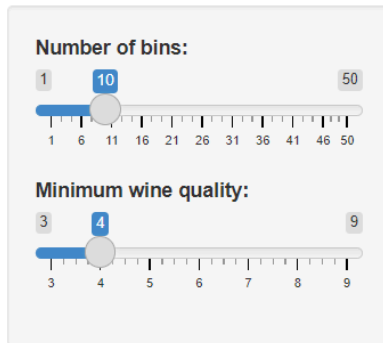


Simple Histogram

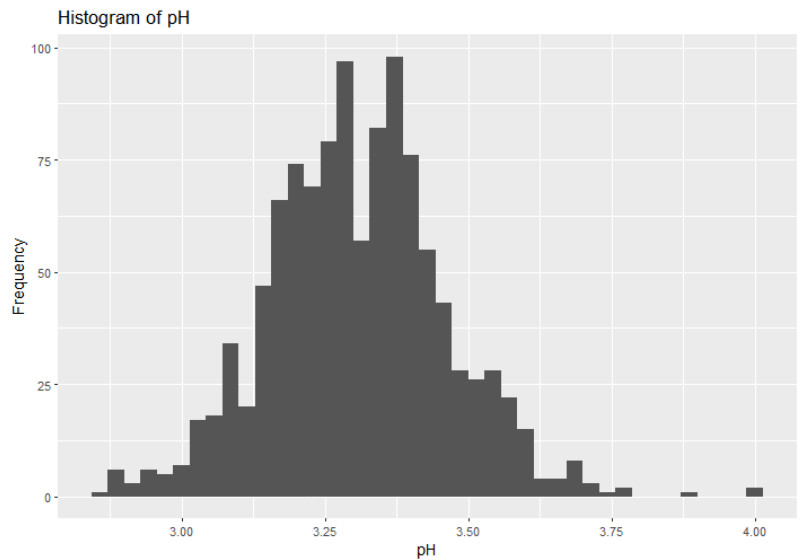
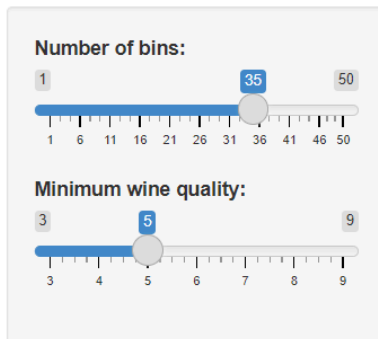


Tut2.R : (Histogram with variable No. of Bins, Wine Quality filter)

Histogram of pH

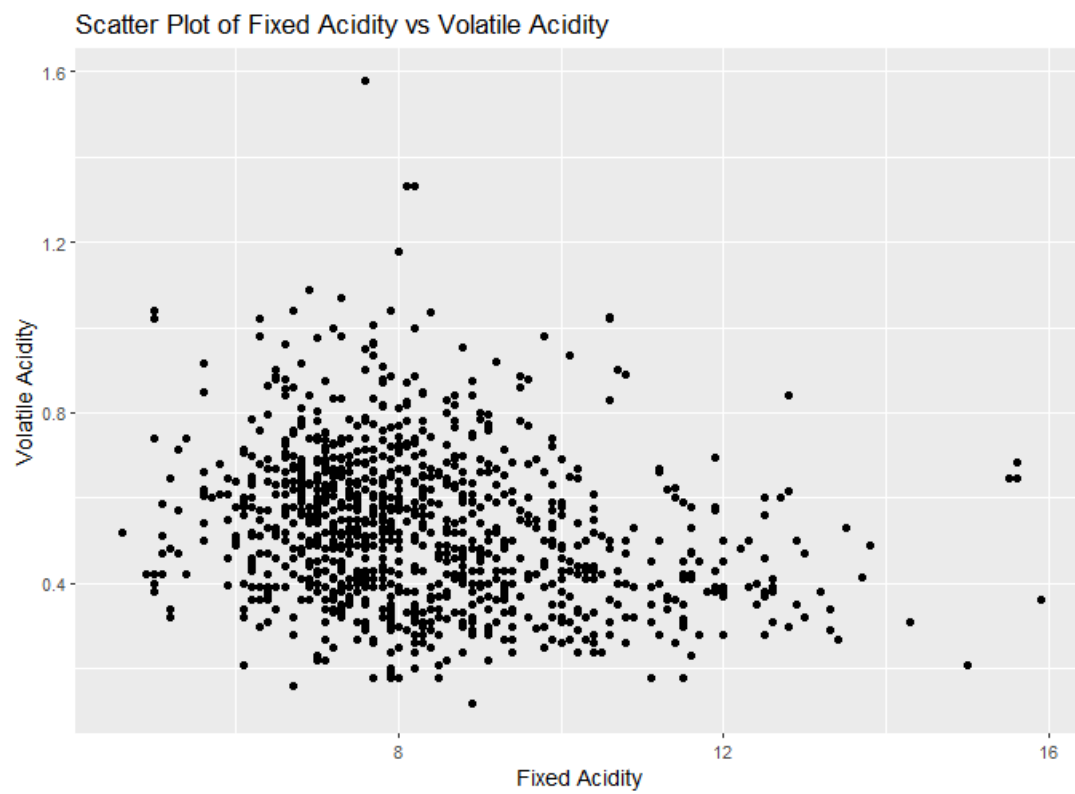


Histogram of pH



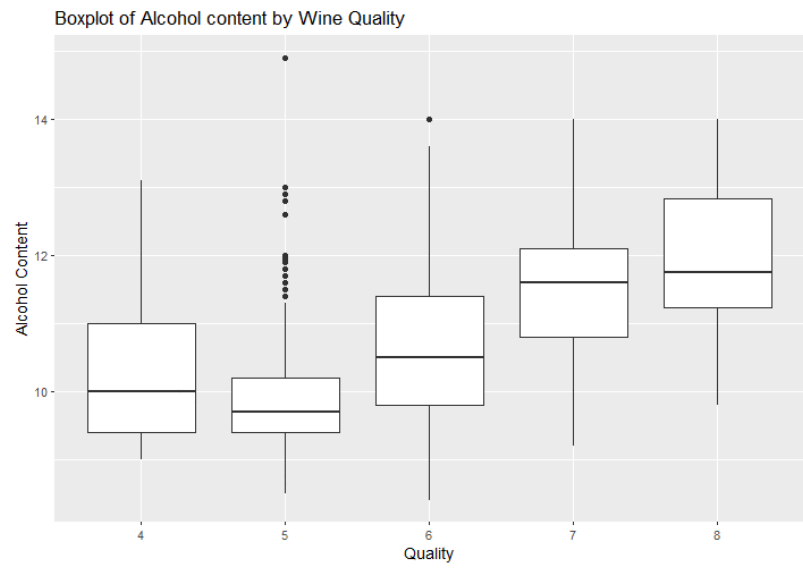
Tut3.R : (Static Scatter Plot)

Scatter Plot of Fixed Acidity vs Volatile Acidity

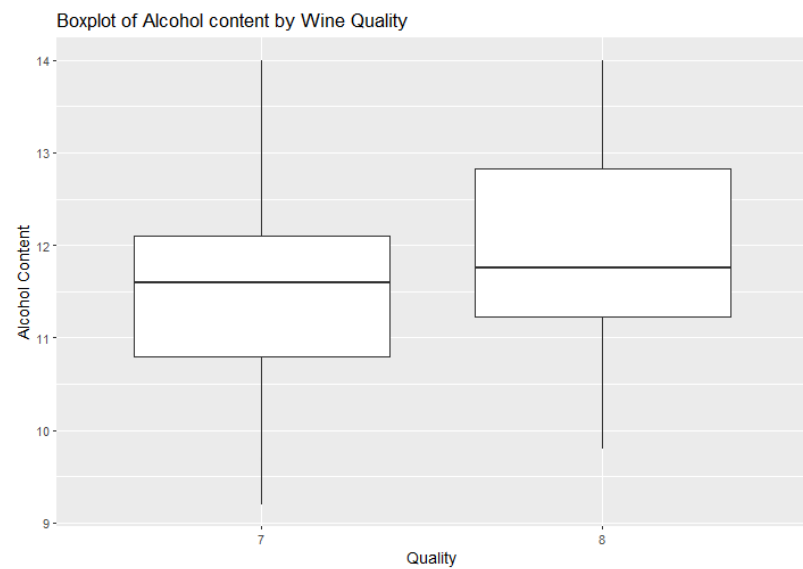


Tut4.R : (BoxPlot with Wine Quality Filter)

Interactive Box Plot

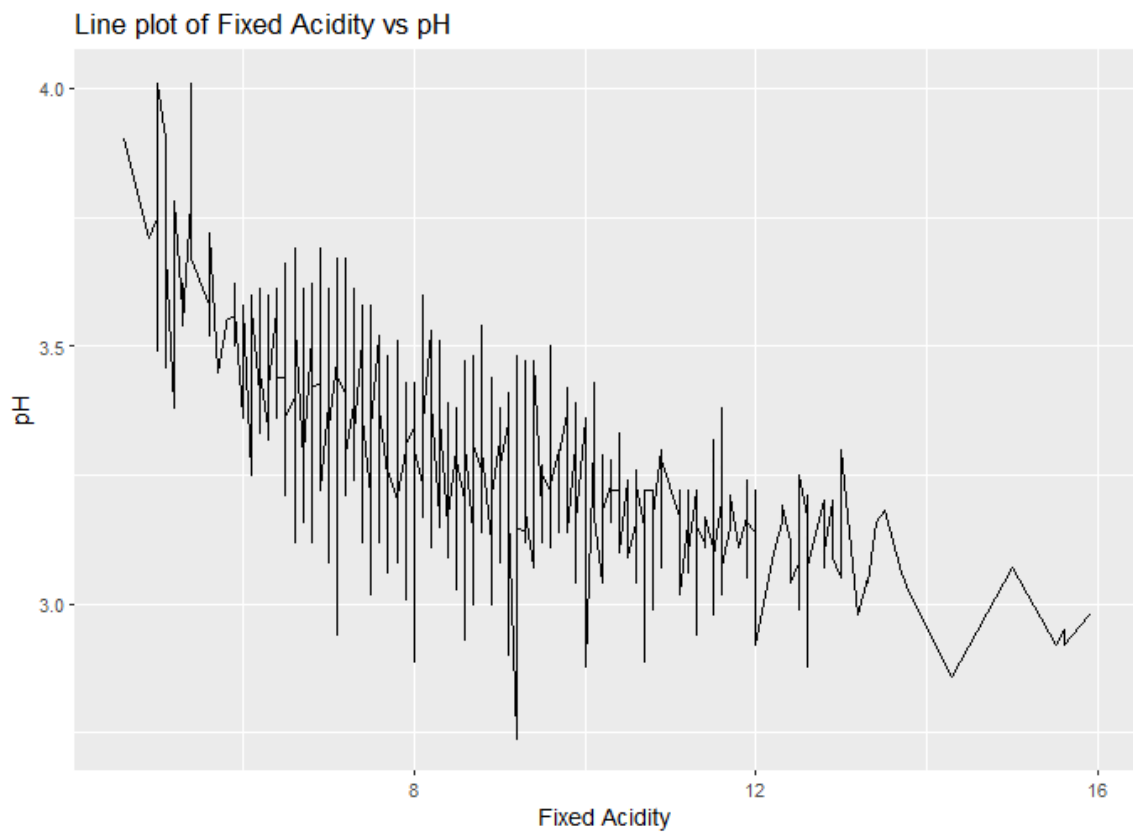


Interactive Box Plot



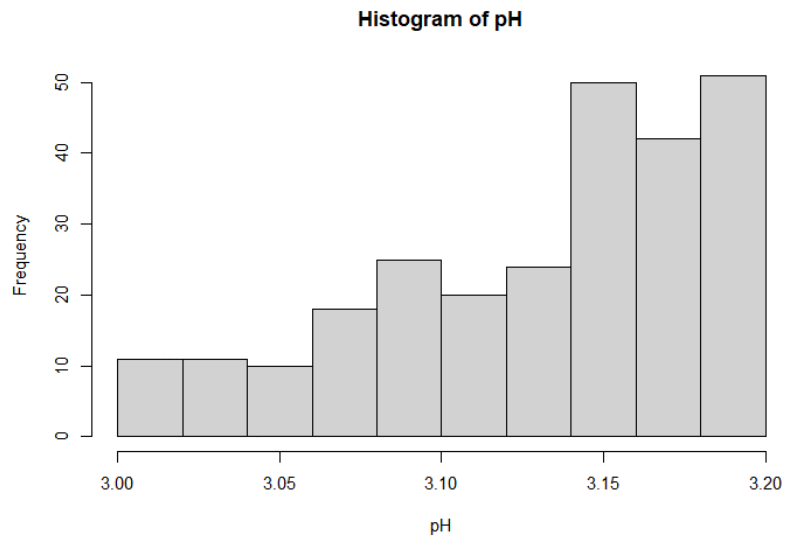
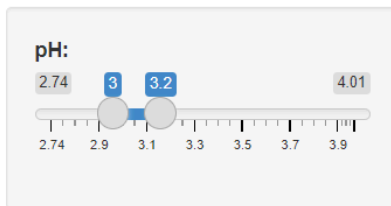
Tut5.R : (Static Line Plot)

Line Plot

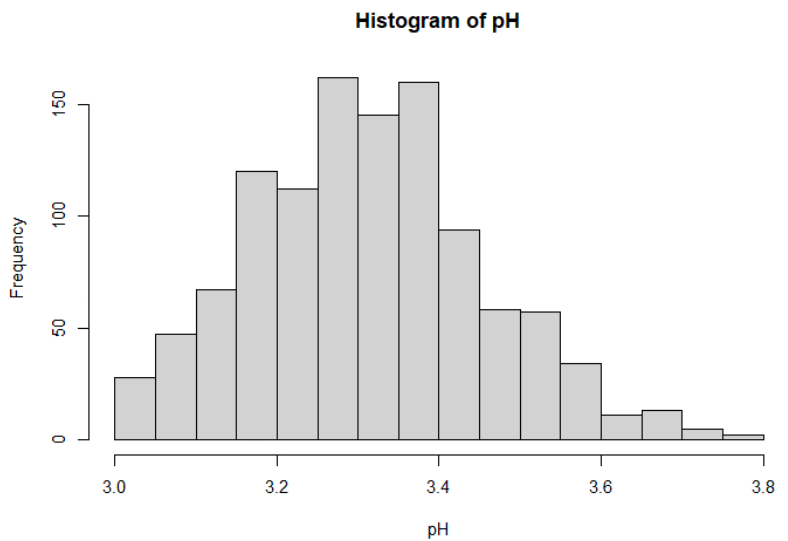
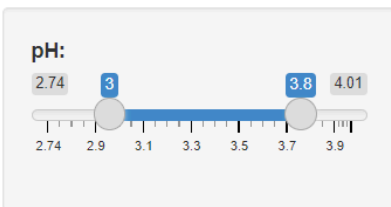


Tut6.R : (Histogram with given pH range)

Interactive Filter on pH



Interactive Filter on pH



Tut7.R : (Interactive Scatters)

Interactive Scatter Plot

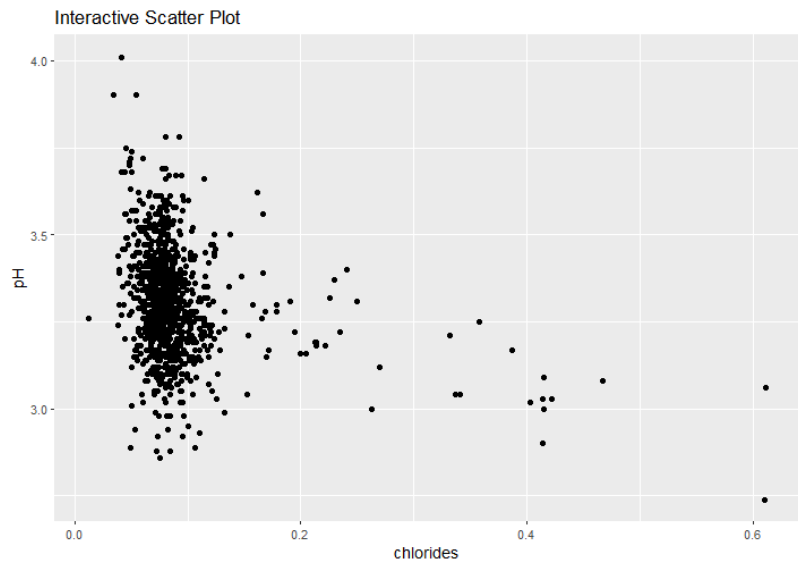
Select X-axis variable:

chlorides ▼

Select Y-axis variable:

pH ▲

- chlorides
- free.sulfur.dioxide
- total.sulfur.dioxide
- density
- pH**
- sulphates
- alcohol
- quality



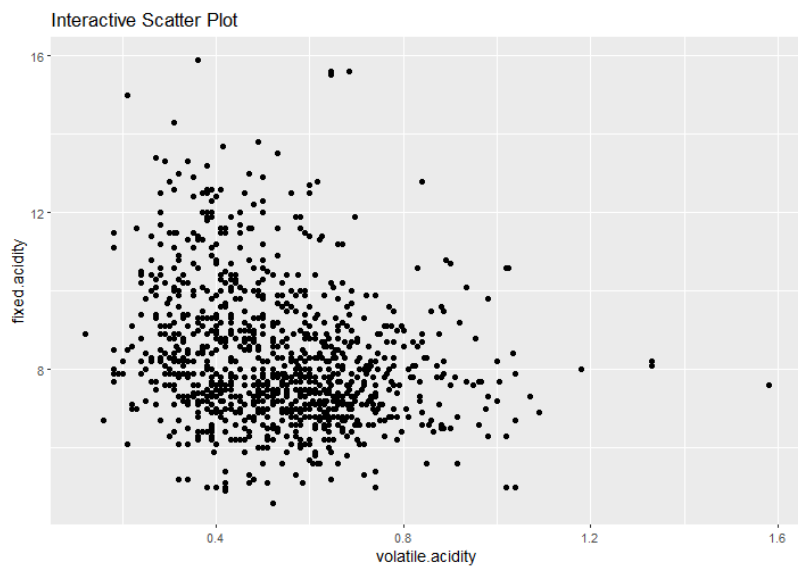
Interactive Scatter Plot

Select X-axis variable:

volatile.acidity ▼

Select Y-axis variable:

fixed.acidity ▼



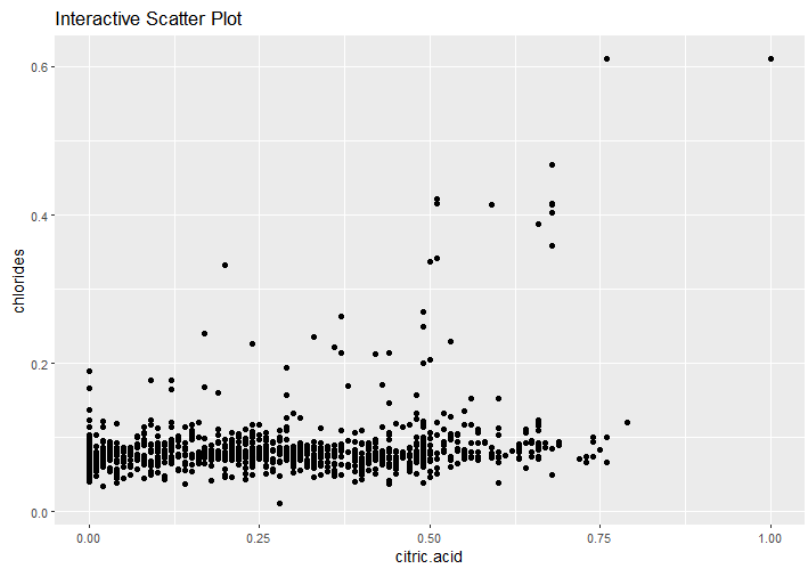
Interactive Scatter Plot

Select X-axis variable:

citric.acid

Select Y-axis variable:

chlorides



Interactive Scatter Plot

Select X-axis variable:

residual.sugar

Select Y-axis variable:

sulphates

