Data Visualization

2019/12/27

# Overview

Visualize the data in winequality-red.csv.

## Basic Statistics

Minimum, median, maximum, average, and quartile.

It might be good to add the standard deviation and the number of data.

## Grade Freq  
## ------ -----  
## 3 10  
## 4 53  
## 5 681  
## 6 638  
## 7 199  
## 8 18  
##   
## rating Freq  
## ------------- -----  
## Good 1518  
## Satisfactory 63  
## Strong 18  
##   
## Type Freq  
## ----- -----  
## Red 1599  
##   
## Producer Name Freq  
## -------------- -----  
## A 131  
## B 123  
## C 139  
## D 144  
## E 135  
## F 114  
## G 137  
## H 131  
## I 139  
## J 139  
## K 133  
## L 134  
##   
## producer code Freq  
## -------------- -----  
## 11 131  
## 12 123  
## 13 139  
## 14 144  
## 15 135  
## 16 114  
## 17 137  
## 18 131  
## 19 139  
## 20 139  
## 21 133  
## 22 134

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Min. | 1st Qu. | Median | Mean | 3rd Qu. | Max. |
| TartaricAcid | 4.6000 | 7.1000 | 7.9000 | 8.3196 | 9.2000 | 15.9000 |
| Acetic | 0.1200 | 0.3900 | 0.5200 | 0.5278 | 0.6400 | 1.5800 |
| Citric | 0.0000 | 0.0900 | 0.2600 | 0.2710 | 0.4200 | 1.0000 |
| Residualsugar | 0.9000 | 1.9000 | 2.2000 | 2.5388 | 2.6000 | 15.5000 |
| Sodiumchloride | 0.0120 | 0.0700 | 0.0790 | 0.0875 | 0.0900 | 0.6110 |
| Freesulfite | 1.0000 | 7.0000 | 14.0000 | 15.8749 | 21.0000 | 72.0000 |
| Totalsulfite | 6.0000 | 22.0000 | 38.0000 | 46.4678 | 62.0000 | 289.0000 |
| Density | 0.9901 | 0.9956 | 0.9968 | 0.9967 | 0.9978 | 1.0037 |
| pH | 2.7400 | 3.2100 | 3.3100 | 3.3111 | 3.4000 | 4.0100 |
| Potassiumsulfate | 0.3300 | 0.5500 | 0.6200 | 0.6581 | 0.7300 | 2.0000 |
| Alcohol | 8.4000 | 9.5000 | 10.2000 | 10.4230 | 11.1000 | 14.9000 |

## Visibility per Item

Numerical data is shown as a histogram, and category data is shown as a bar graph.





