What Factors Contribute to A Top Tier Red Wine? An Analysis

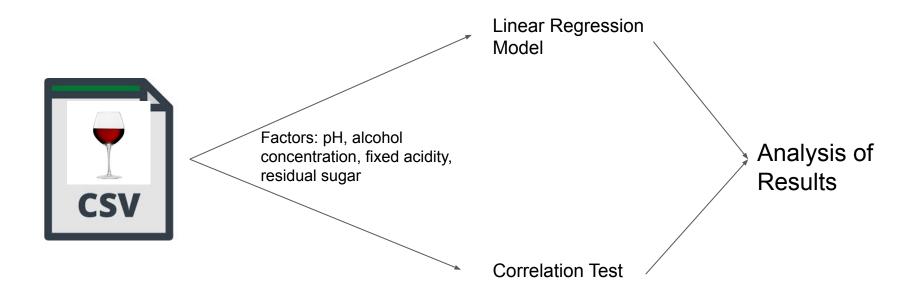
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Objective

- 1. Does an increase in alcohol concentration lead to an increase in the red wine quality, while controlling for pH, fixed acidity, and residual sugar?
- 2. Are pH, alcohol concentration, fixed acidity, and residual sugar significantly linearly related to the quality of red wine?

Factors: pH, alcohol concentration, fixed acidity, residual sugar

Dataset and Methods



Results

Correlations and Correlation Tests

Factor	R	P value
рН	-0.058	0.02096*
Alcohol concentration	0.476	< 2.2e-16*
Residual Sugar	0.014	0.5832
Fixed Acidity	0.124	6.496e-07*

^{*} means significant to alpha level = 0.05

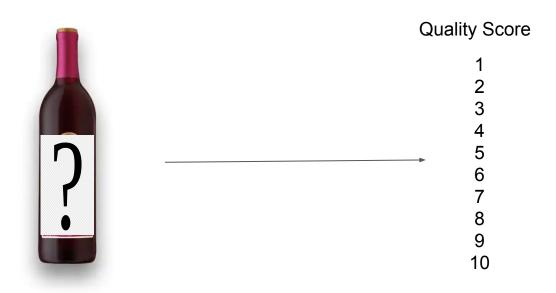
Results

Linear Regression Model

Factor	Slope Estimate	P value
рН	-0.558	0.000462*
Alcohol concentration	0.380	< 2e-16*
Residual Sugar	-0.014	0.252841
Fixed Acidity	0.042	0.002458*
Fixed Acidity interacting with Alcohol concentration	-0.0097	0.232832

^{*} means significant to alpha level = 0.05

Implications



Limitations/Areas for Future Research



Picture Sources

- World Map:
- Europe Map:
- Portugal Map:
- Question Mark:
 - https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.pngwave.com%2Fpng-clip-art-dllff&psig=AOvVaw357L_4vbsoaWqV1bA20U E4&ust=1588537011702000&source=images&cd=vfe&ved=0CA0QjhxqFwoTCIDIzvCBlukCFQAAAAAAAAAAAAAAADD
- Glass of Red Wine:
- Wine Bottle: