

GitHub Repo Link: [cs131/a4 at main · DanCSJSU/cs131 \(github.com\)](https://github.com/DanCSJSU/cs131)

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## HW4 Plots and Tables PDF

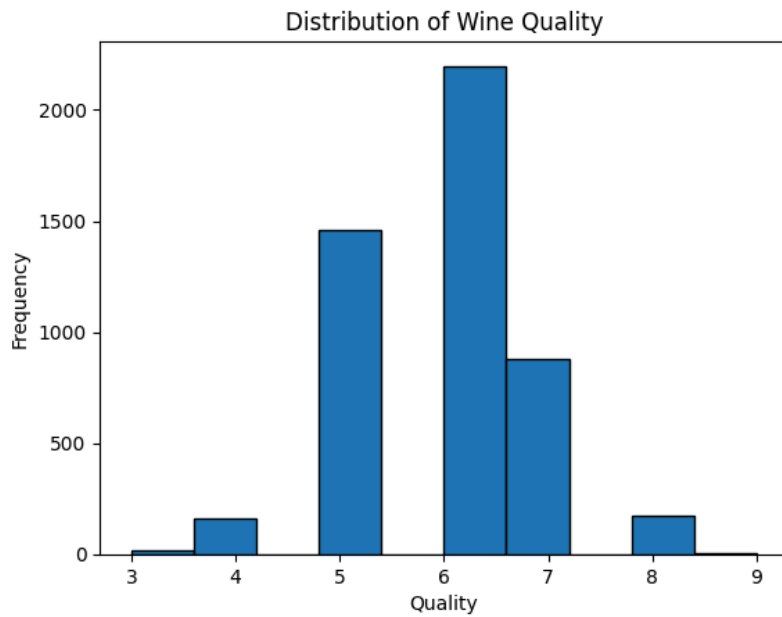
### Part 1

	fixed acidity	volatile acidity	citric acid	residual sugar	chlorides	free sulfur dioxide	total sulfur dioxide	density	pH	sulphates	alcohol	quality
count	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000	4898.000000
mean	6.854788	0.278241	0.334192	6.391415	0.045772	35.308085	138.360657	0.994027	3.188267	0.489847	10.514267	5.877909
std	0.843868	0.100795	0.121020	5.072058	0.021848	17.007137	42.498065	0.002991	0.151001	0.114126	1.230621	0.885639
min	3.800000	0.080000	0.000000	0.600000	0.009000	2.000000	9.000000	0.987110	2.720000	0.220000	8.000000	3.000000
25%	6.300000	0.210000	0.270000	1.700000	0.036000	23.000000	108.000000	0.991723	3.090000	0.410000	9.500000	5.000000
50%	6.800000	0.260000	0.320000	5.200000	0.043000	34.000000	134.000000	0.993740	3.180000	0.470000	10.400000	6.000000
75%	7.300000	0.320000	0.390000	9.900000	0.050000	46.000000	167.000000	0.996100	3.280000	0.550000	11.400000	6.000000
max	14.200000	1.100000	1.660000	65.800000	0.346000	289.000000	440.000000	1.038980	3.820000	1.080000	14.200000	9.000000

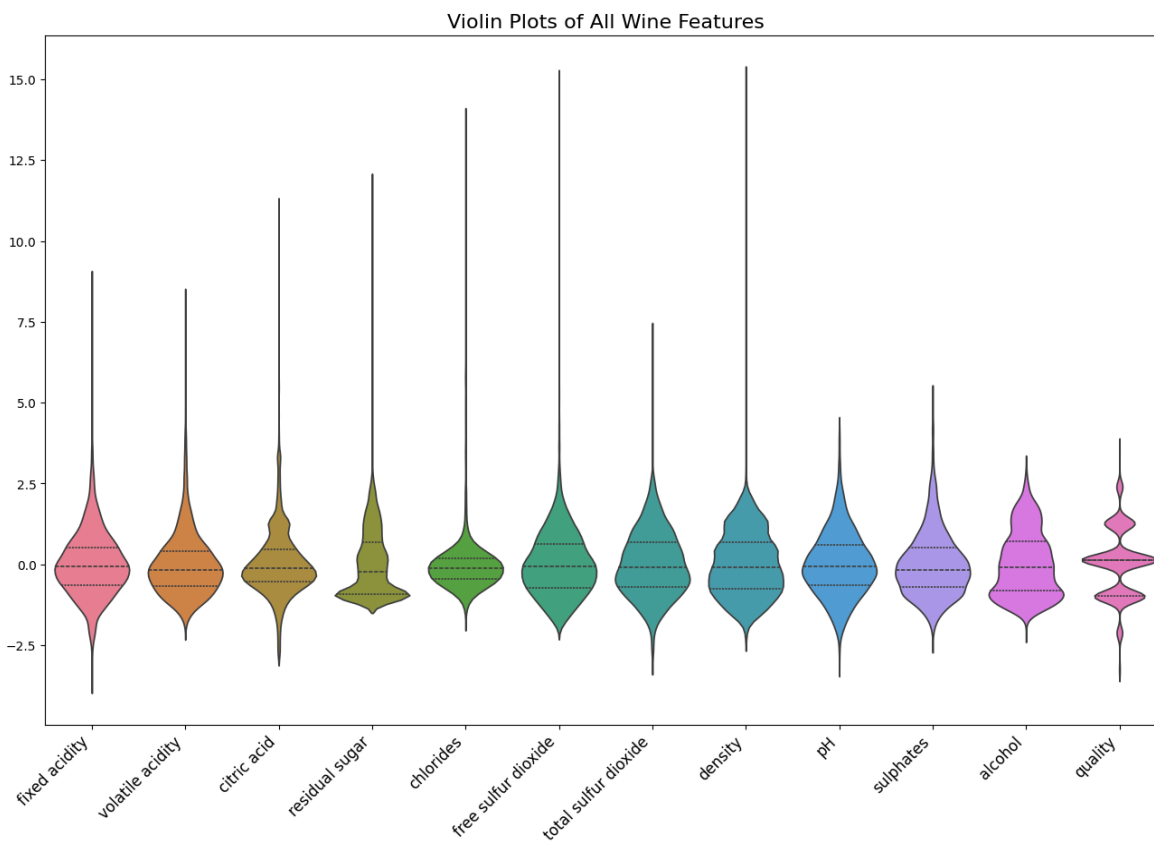
### Part 2

	fixed acidity	volatile acidity	citric acid	residual sugar	chlorides	free sulfur dioxide	total sulfur dioxide	density	pH	sulphates	alcohol	quality
fixed acidity	1.000000	-0.022697	0.289181	0.089021	0.023086	-0.049396	0.091070	0.265331	-0.425858	-0.017143	-0.120881	-0.113663
volatile acidity	-0.022697	1.000000	-0.149472	0.064286	0.070512	-0.097012	0.089261	0.027114	-0.031915	-0.035728	0.067718	-0.194723
citric acid	0.289181	-0.149472	1.000000	0.094212	0.114364	0.094077	0.121131	0.149503	-0.163748	0.062331	-0.075729	-0.009209
residual sugar	0.089021	0.064286	0.094212	1.000000	0.088685	0.299098	0.401439	0.838966	-0.194133	-0.026664	-0.450631	-0.097577
chlorides	0.023086	0.070512	0.114364	0.088685	1.000000	0.101392	0.198910	0.257211	-0.090439	0.016763	-0.360189	-0.209934
free sulfur dioxide	-0.049396	-0.097012	0.094077	0.299098	0.101392	1.000000	0.615501	0.294210	-0.000618	0.059217	-0.250104	0.008158
total sulfur dioxide	0.091070	0.089261	0.121131	0.401439	0.198910	0.615501	1.000000	0.529881	0.002321	0.134562	-0.448892	-0.174737
density	0.265331	0.027114	0.149503	0.838966	0.257211	0.294210	0.529881	1.000000	-0.093591	0.074493	-0.780138	-0.307123
pH	-0.425858	-0.031915	-0.163748	-0.194133	-0.090439	-0.000618	0.002321	-0.093591	1.000000	0.155951	0.121432	0.099427
sulphates	-0.017143	-0.035728	0.062331	-0.026664	0.016763	0.059217	0.134562	0.074493	0.155951	1.000000	-0.017433	0.053678
alcohol	-0.120881	0.067718	-0.075729	-0.450631	-0.360189	-0.250104	-0.448892	-0.780138	0.121432	-0.017433	1.000000	0.435575
quality	-0.113663	-0.194723	-0.009209	-0.097577	-0.209934	0.008158	-0.174737	-0.307123	0.099427	0.053678	0.435575	1.000000

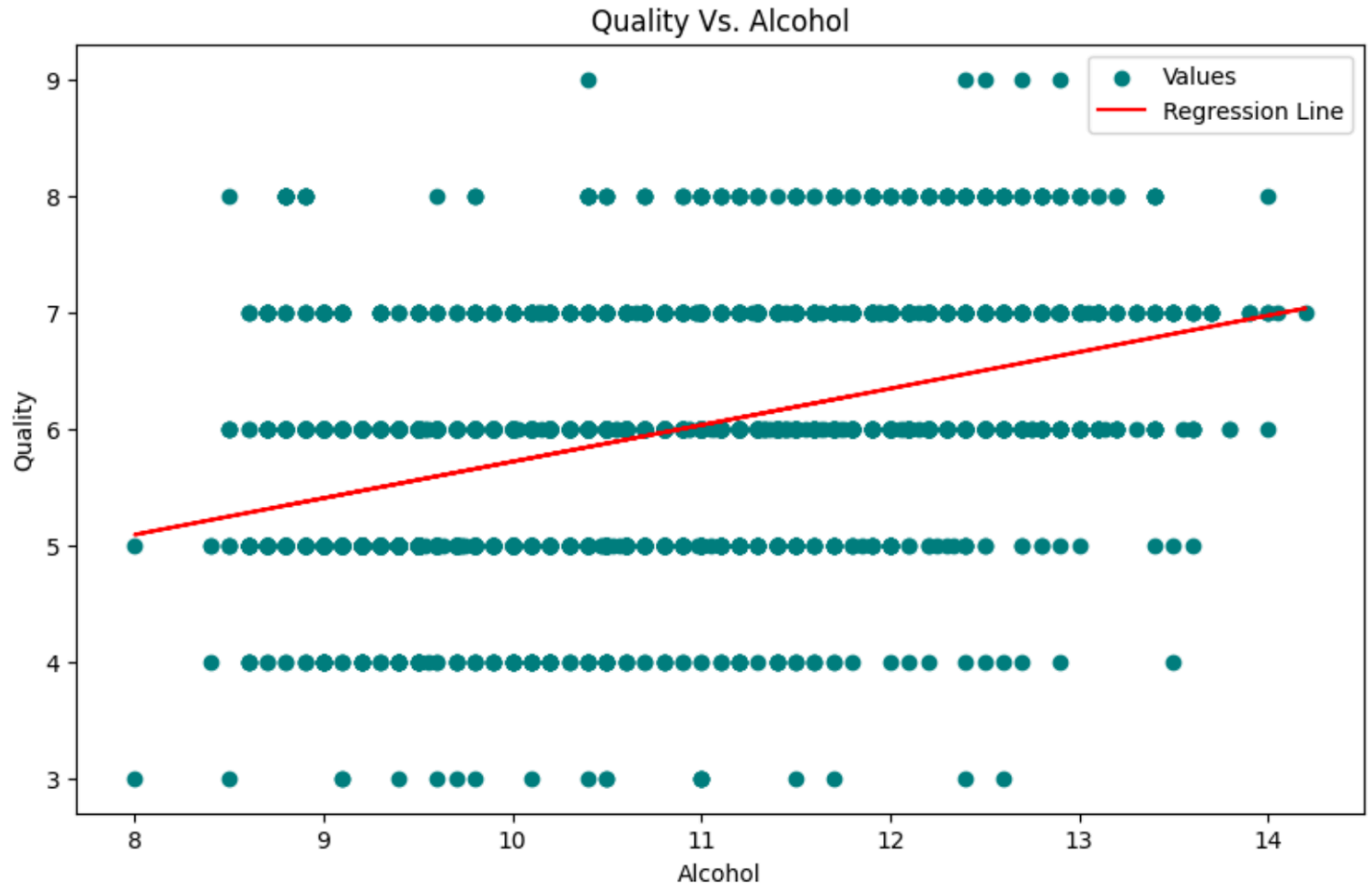
## Part 3



## Part 4



## Part 5



```
Intercept = 2.582009399174922  
Coefficient = 0.3134693019118325  
RMSE = 0.7971284628753889  
R^2 = 0.1897253327492563
```

## Part 6

```
Intercept = -36.498611307001624  
Coefficients = [-2.07211594  0.39889282 38.99188669]  
RMSE = 0.76848726881725  
R^2 = 0.24690635619896484
```