**Assignment 3 model parameters**

**Question 9: Make a Wine price prediction model thru linear regression**,

**Come up with best model on basis of below parameter**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable Names** | **R-square\*** | **Adjusted R-square\*** | **Train data (0.8/0.2 split)** | | | **Train data (0.7/0.3 split)** | | |
| **Mean Square error** | **Root Mean Square error (RMSE)** | **Mean Absolute Percentage Error (MAPE)** | **Mean Square error** | **Root Mean Square error (RMSE)** | **Mean Absolute Percentage Error (MAPE)** |
| Winter Rain | 0.957 (0.967) | 0.954 (0.965) | 0.46 | 0.68 | 0.59 | 0.55 | 0.74 | 0.61 |
| AGST | 0.995 (0.995) | 0.994 (0.994) | 0.14 | 0.37 | 0.27 | 0.22 | 0.47 | 0.33 |
| HarvestRain | 0.729 (0.701) | 0.715 (0.682) | 0.46 | 0.68 | 0.53 | 0.54 | 0.74 | 0.62 |
| Age | 0.852 (0.885) | 0.844 (0.878) | 0.35 | 0.59 | 0.54 | 0.28 | 0.53 | 0.48 |
| FrancePop | 0.980 (0.980) | 0.978 (0.979) | 0.31 | 0.56 | 0.51 | 0.26 | 0.51 | 0.46 |
| WR+AGST+HR | 0.998  (0.999) | 0.998 (0.999) | 0.21 | 0.46 | 0.38 | 0.27 | 0.52 | 0.44 |
| WR+AGST+HR+Age+FP | 0.999  (1.000) | 0.999 (0.999) | 0.22 | 0.47 | 0.41 | 0.28 | 0.53 | 0.46 |

\* With train test split of 80% and 20% respectively.

The values in the parenthesis of R-square and adjusted r-square are for 0.7/0.3 train test split. The values without bracket are for 0.8/0.2 split.

Note: Please check the file “Assignment3\_final.py” file for the rest.