

MACHINE-LEARNING

ASSIGNMENT-1

Question 1: Decision Tree

GROUP-22

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Code has three parts

3. Train_B_tree.csv

The given dataset has the following variables as follows:

- 1.Cement
- 2.Slag
3. Flyash
- 4.Water
- 5.Superplasticizer
- 6.Coarseaggregate
- 7.Fineaggregate
- 8.Age
9. csMPa

Procedure followed

For 70:30 splits

Final result:

```

      cement  slag  flyash  water  ...  coarseaggregate  fineaggregate  age  csMPa
0      540.0    0.0    0.0  162.0  ...      1040.0          676.0   28  79.99
1      540.0    0.0    0.0  162.0  ...      1055.0          676.0   28  61.89
2      332.5   142.5    0.0  228.0  ...       932.0          594.0  270  40.27
3      332.5   142.5    0.0  228.0  ...       932.0          594.0  365  41.05
4      198.6   132.4    0.0  192.0  ...       978.4          825.5  360  44.30
...      ...    ...    ...    ...  ...      ...          ...   ...   ...
1025    276.4   116.0    90.3  179.6  ...       870.1          768.3   28  44.28
1026    322.2    0.0   115.6  196.0  ...       817.9          813.4   28  31.18
1027    148.5   139.4   108.6  192.7  ...       892.4          780.0   28  23.70
1028    159.1   186.7    0.0  175.6  ...       989.6          788.9   28  32.77
1029    260.9   100.5    78.3  200.6  ...       864.5          761.5   28  32.40

[1030 rows x 9 columns]
Height of the regression tree

18
root of mean square error:  410.7082266963592

Process finished with exit code 0
```