

Question-1:

Answer all the questions using the dataset given below. The dataset is about software quality, and you are required to predict whether the quality of the software is GOOD, BAD or AVERAGE.

Framework Used	Project Scope	Allocated Days	Assigned Team	Quality
FastAPI	Large	20	T1	Good
Flask	Very Large	12	T3	Average
FastAPI	Large	17	T1	Good
Flask	Very Large	8	T2	Bad
FastAPI	Large	12	T3	Bad
Flask	Small	15	T1	Average
Flask	Small	13	T3	Good
FastAPI	Large	11	T3	Average
FastAPI	Very Large	17	T1	Good
Flask	Small	11	T2	Bad

- Create a classification tree for the above dataset. The depth of the tree could be upto 2.
- Create a Random Forest with 3 trees for the above dataset. There are no specific instructions about the selection process, so you can do as your will.

Once you create the Random Forest, find the prediction for the following data:

Flask Large 12 T1

- What would you do if there were some missing data in the dataset? Just write the process. No need to show any calculation. Consider that, in the 3rd row 2nd & 4th attributes are missing.
- Show a complete iteration of AdaBoost and XGBoost for the dataset above.
You can only write the detailed process, if you want. [No mark will be deducted for that]
- Create a dataset for a **regression** problem, and solve it using a Regression Tree.
Your dataset should have 4 attributes, and the tree depth should be at least 2.

Answer any of the three questions from above.

Question 2:

Will be added later.