1. Identify your problem statement

stage 1 : **Machine Learning**

stage 2 : **Supervised**

stage 3: **Classification**

1. Tell basic info about the dataset (Total number of rows, columns)
2. Dataset contain 399 rows × 25 columns
3. 27 input column ( age, sex, bmi, children, smoker) and 1 output column ( Charges)
4. **Sg, rbc, pc,pcc,ba,htn,dm,cad,appet,pe and ane** are categorical (Ordinal) column so we have to convert as numerical data
5. Mention the pre-processing method if you’re doing any (like converting string to number – nominal data)

Dataset for Before Preprocessing

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AI-generated content may be incorrect.

Dataset for After Preprocessing

1. Converting string to number – Ordinal Mapping (Label Encoder)

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4. Develop a good model with good evaluation metric. You can use any machine learning algorithm; you can create many models. Finally, you have to come up with final model..

1. **SVM Grid Search**

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**Accuracy is 0.9924946382275899**

1. **Descension tree Grid Search**

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AI-generated content may be incorrect.**

**Accuracy is 0.812447479**

1. **Random Forest Grid Search**

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AI-generated content may be incorrect.**

**Accuracy  is 0.9849624060150376**

**Final Result**

**SVM Grid Search is the best model which gives high Accuracy is 0.9924946382275899**

**compare to other model**