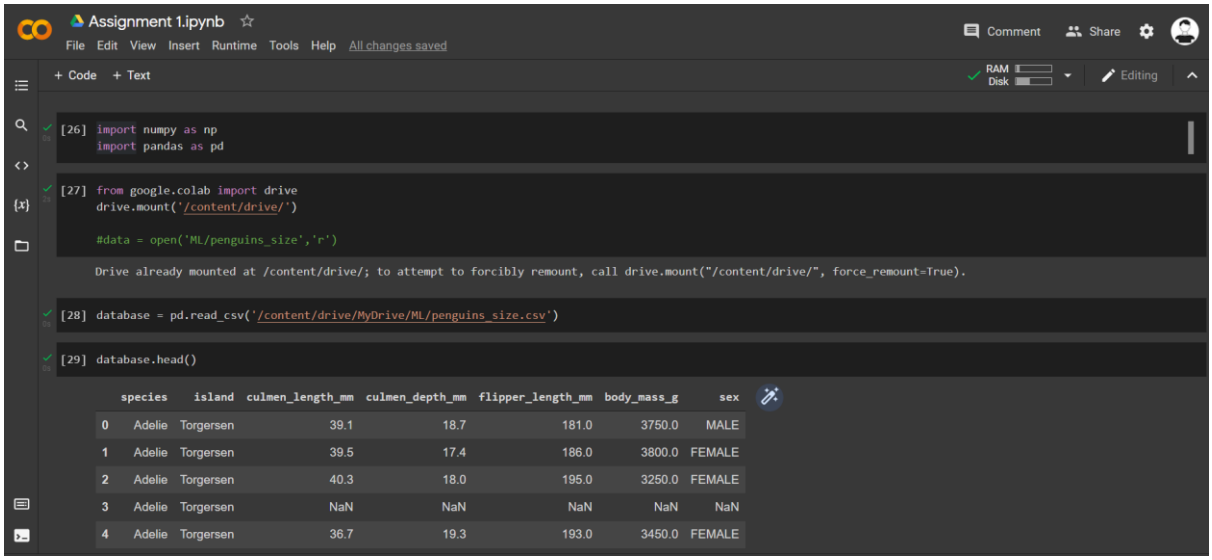
Name : Kshitij V Darwhekar

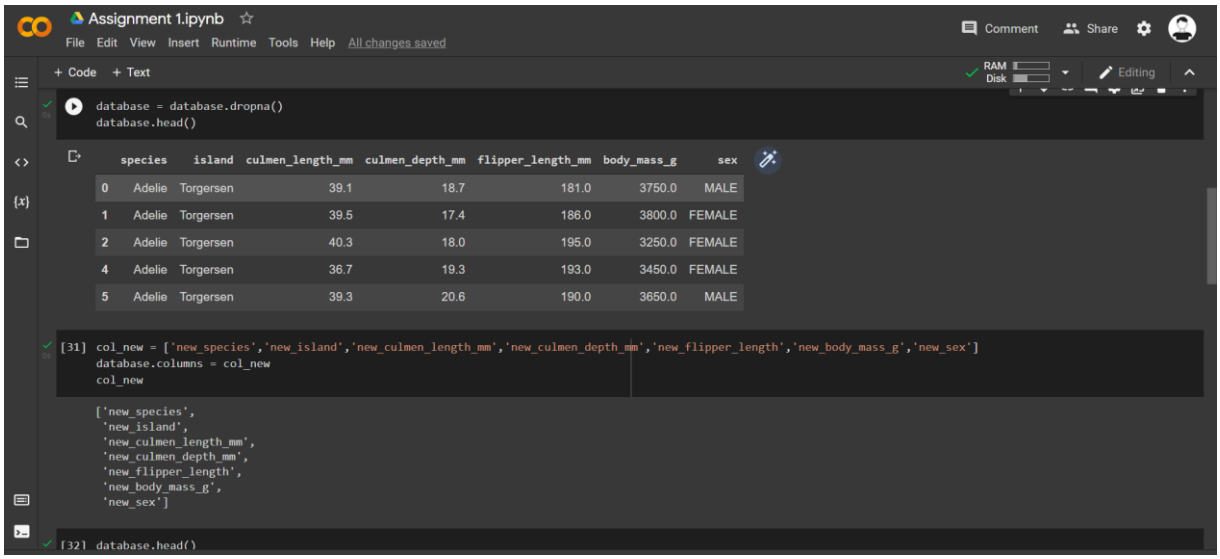
Roll No: TETB19

Sub : Soft Computing

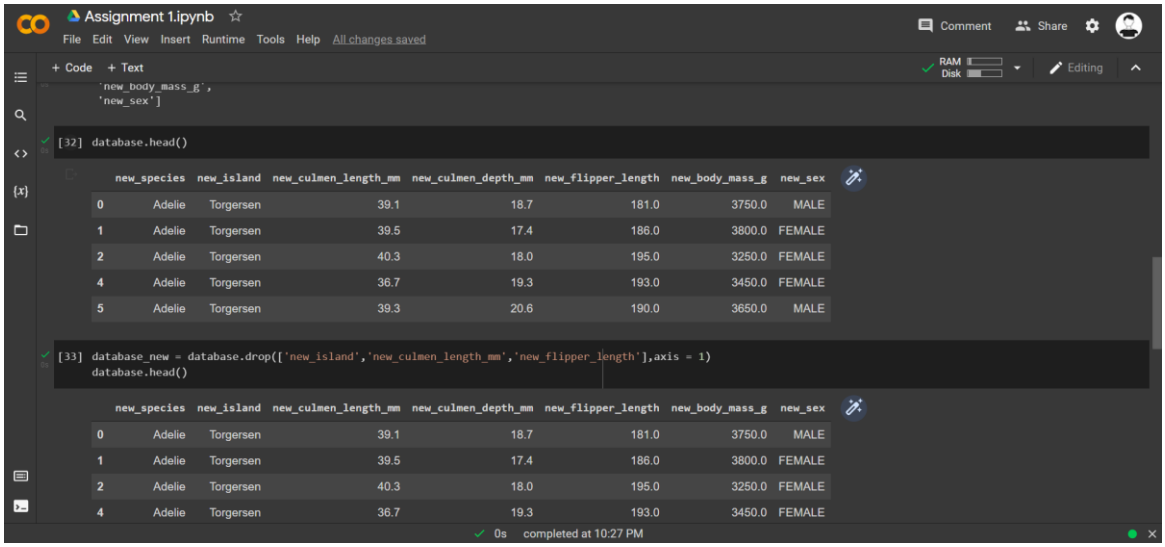
Q1. Perform following task on any dataset



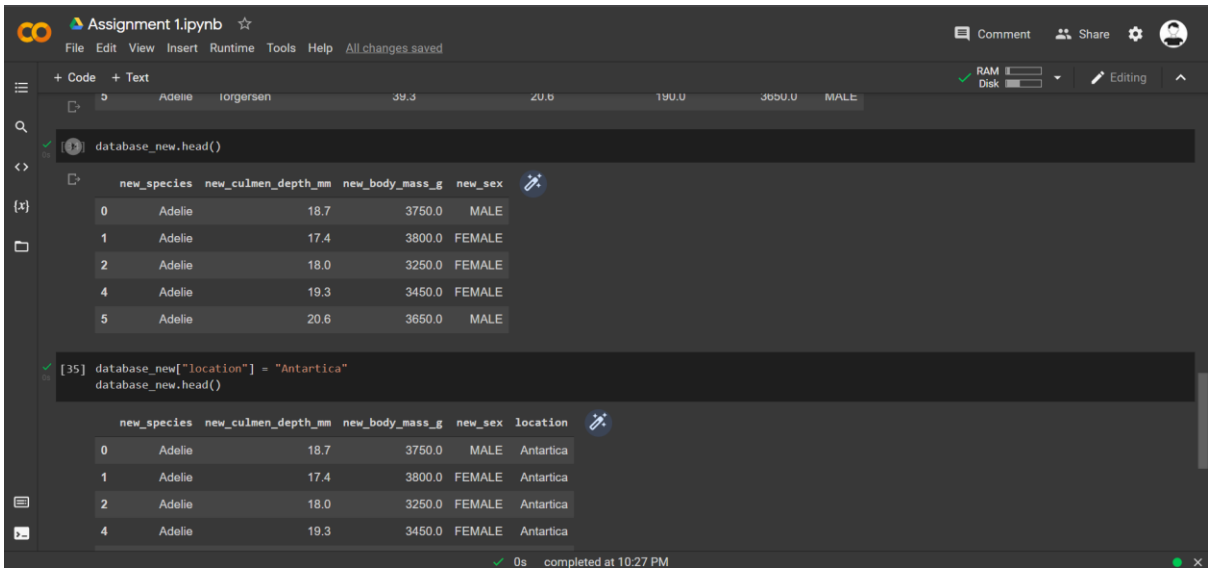
1. Change column name present in dataset



2. Drop unessential column

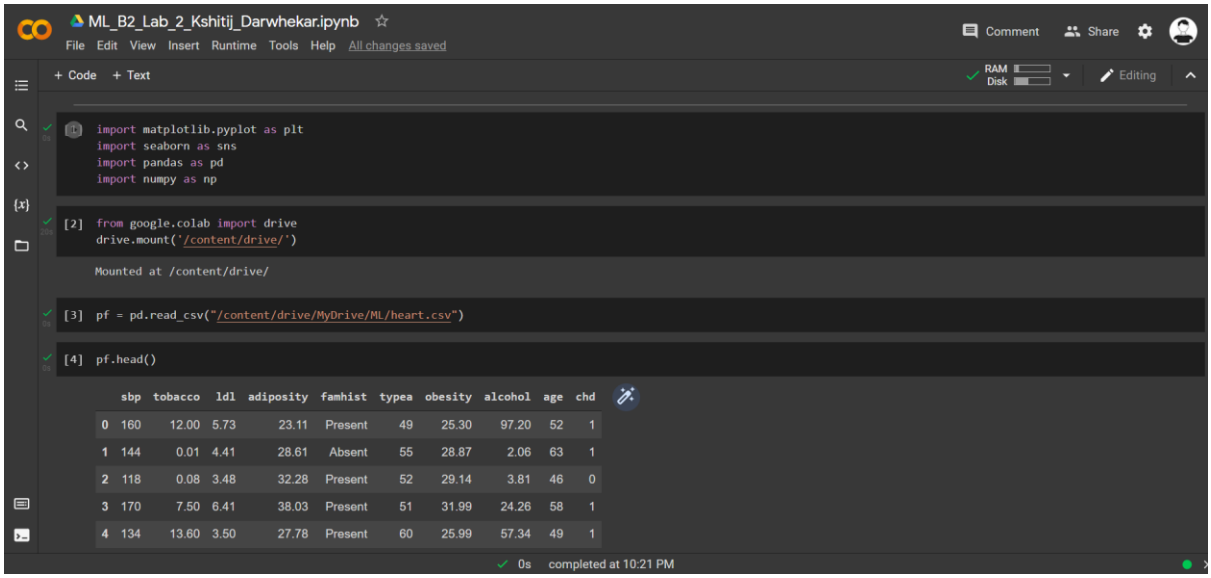


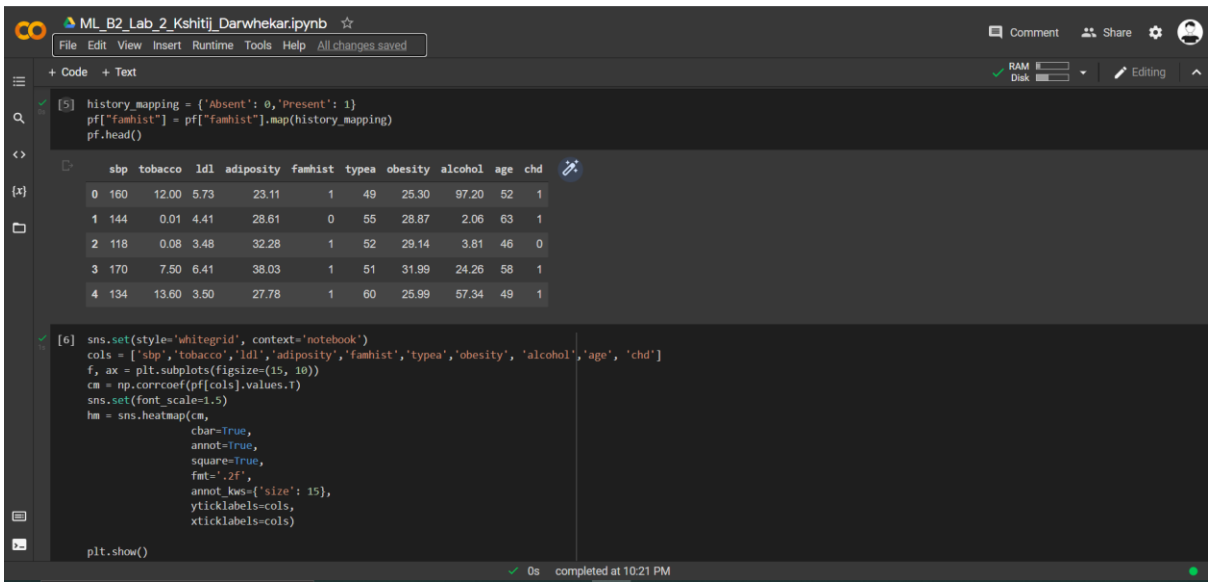
3. Add new columns in dataset

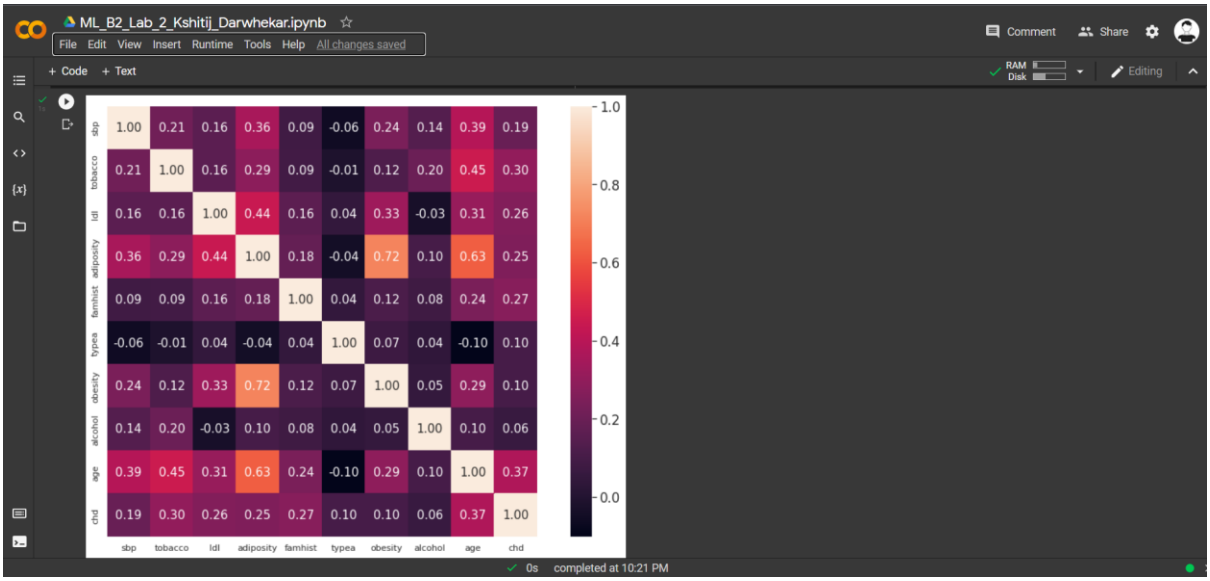


Q2. Explain overfitting, underfitting and confusion matrix with example

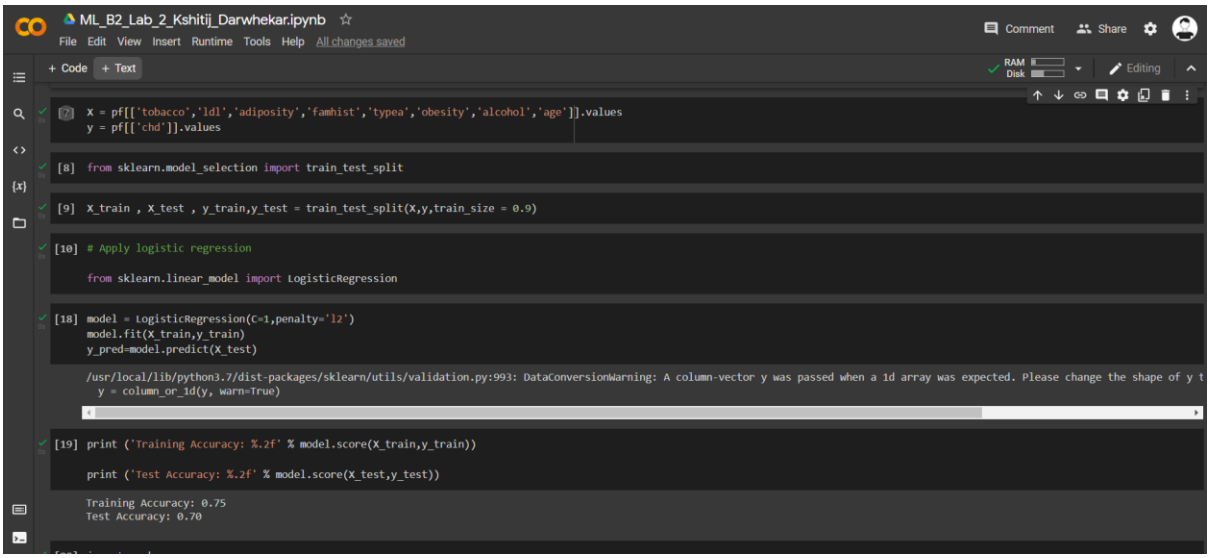
1. Select appropriate dataset

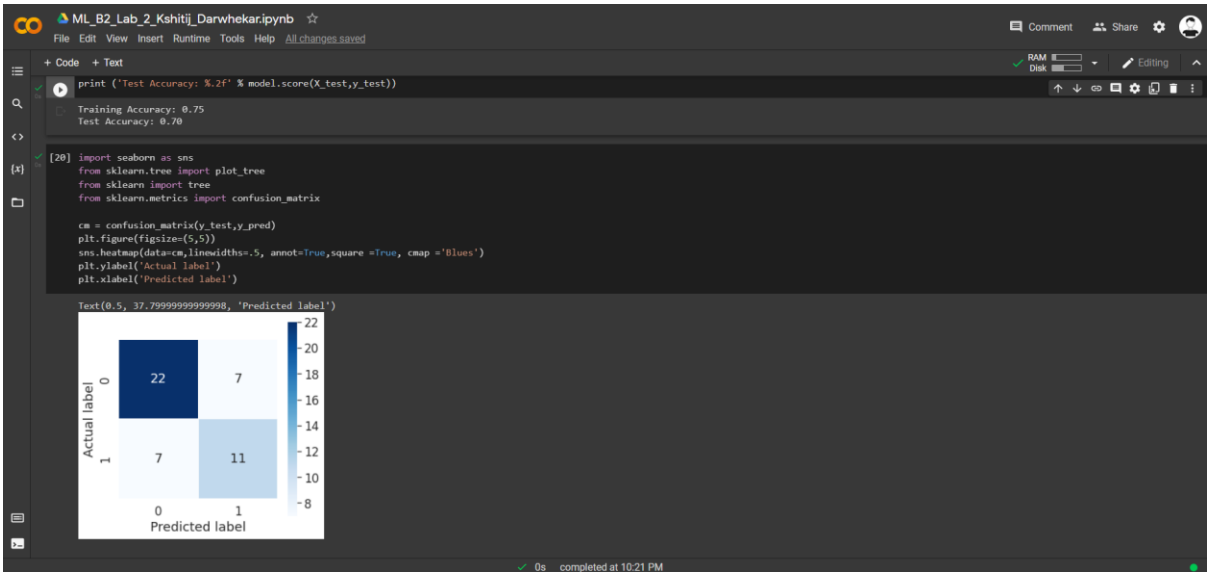




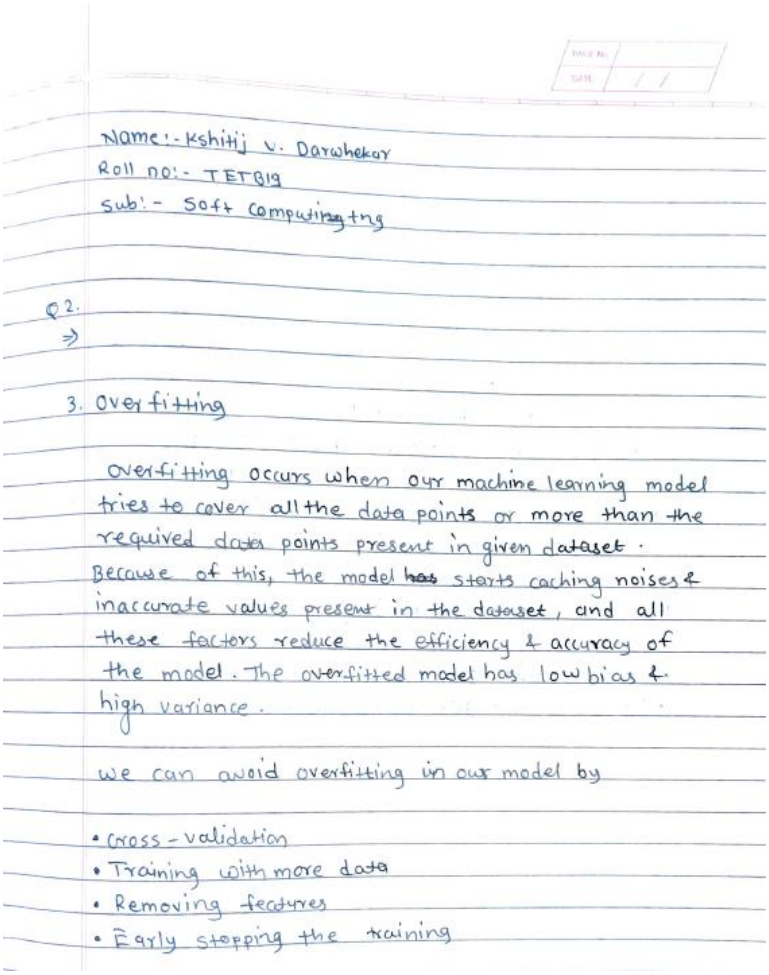


2. Find confusion matrix present analysis





3. Analyze overfitting of model



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Q2.
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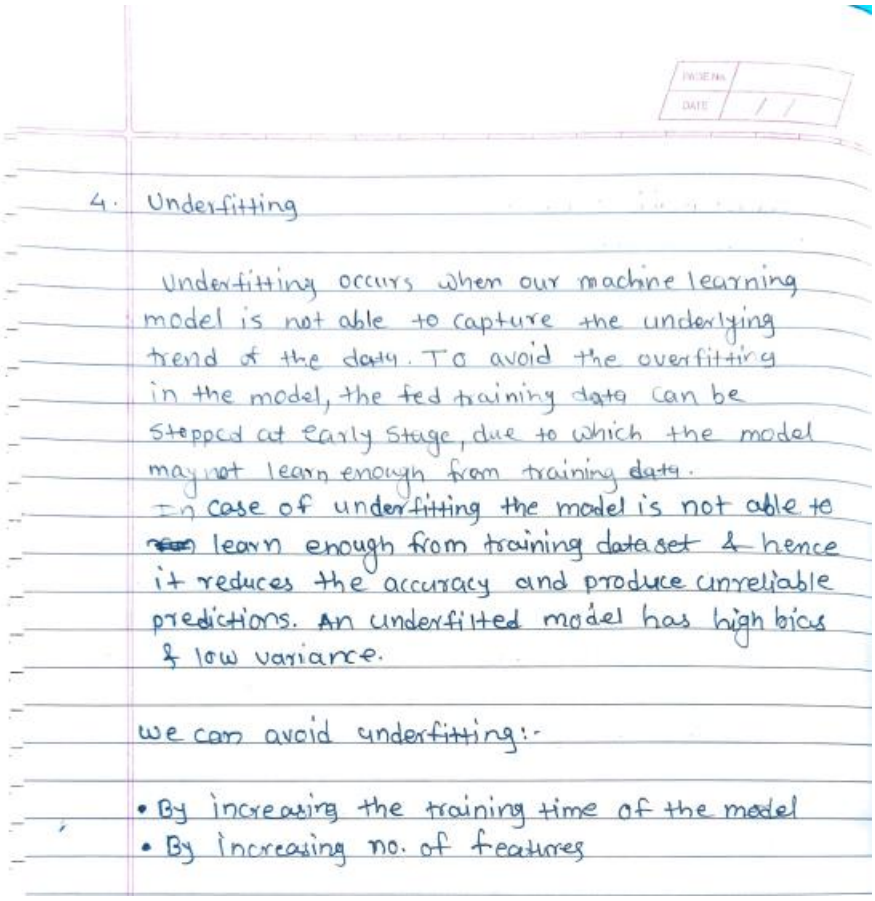
3. Overfitting

Overfitting occurs when our machine learning model tries to cover all the data points or more than the required data points present in given dataset. Because of this, the model has starts caching noises & inaccurate values present in the dataset, and all these factors reduce the efficiency & accuracy of the model. The overfitted model has low bias & high variance.

we can avoid overfitting in our model by

- Cross-validation
- Training with more data
- Removing features
- Early stopping the training

4. Analyze underfitting of model



4. Underfitting

Underfitting occurs when our machine learning model is not able to capture the underlying trend of the data. To avoid the overfitting in the model, the fed training data can be stopped at early stage, due to which the model may not learn enough from training data. In case of underfitting the model is not able to learn enough from training dataset & hence it reduces the accuracy and produce unreliable predictions. An underfitted model has high bias & low variance.

we can avoid underfitting:-

- By increasing the training time of the model
- By increasing no. of features