**Solution Sheet**

* Which model have you used for probability prediction? Explain your model.

MODEL:**Decision Tree Regression**

Model is prepared in certain steps:

1. Preprocessing(Data cleaning,replacing missing values)
2. To find Optimal Model-Backward Elimination(to Exclude unnecessary variable)
3. Fitting Training\_Dataset into Decision Tree Regression Model
4. Predict the Result of Test\_Dataset

* **Preprocessing** was the first step,where training dataset was preprocessed.Missing values from Numerical Attributes were placed with the help of SimpleImputer library and Categorical Attributes was placed randomly. Atlast in preprocessing categorical variables were converted into numeric variables.
* Applied **OLS(Ordinary Least Square)** method to exclude all the unnecessary variables using Backward Elimination Technique and stopped at highest **Adjusted-R square value**=0.285
* After eliminating all unnecessary variables,the model was trained with training dataset with the help of **Decision Tree Regression**(fitting training sets in regressor)
* And therefore predicting Test dataset from the model trained above.
* Which model have you used for Diuresis Time series prediction? Explain your model.

(Trial Method)Model:**Linear Regression for Time Series Prediction**

Steps Involved:

1. Fitted Diuresis Time Series training\_dataset into Linear Regression Model and predicted the 27th March Duresis variable in training dataset.
2. Now,Trained Model again with 20th March Diuresis value with 27th March Diuresis value and predicted 27th March Diuresis variable of test dataset.
3. Updated the 27th March Diuresis variable in test dataset and repeated the Model of 1st problem i.e,Decision Tree Regression Model as mentioned in above question.