1. B
2. A
3. B
4. C
5. D
6. B
7. C
8. D
9. B
10. A

11. One-hot encoding creates d-dimensional vectors for each instance where d is the unique number of feature values in the dataset. For a feature having a large number of unique feature values or categories. Here n-dummy is the best method available.

12. Under-sampling: Under-sampling balances the dataset by reducing the size of the abundant class. This method is used when quantity of data is sufficient. By keeping all samples in the rare class and randomly selecting an equal number of samples in the abundant class, a balanced new dataset can be retrieved for further modelling

    Over-sampling: On the contrary, oversampling is used when the quantity of data is insufficient. It tries to balance dataset by increasing the size of rare samples. Rather than getting rid of abundant samples, new rare samples are generated.

13. The key difference between ADASYN and SMOTE is that the former uses a density distribution, as a criterion to automatically decide the number of synthetic samples that must be generated for each minority sample by adaptively changing the weights of the different minority samples to compensate for the skewed distributions. The latter generates the same number of synthetic samples for each original minority sample.

14. The GridSearchCV is used for hyperparameter tuning of the algorithm. It is used to get even more accuracy out of the most model. When the dataset is large it can take much time os in case of large datasets RandomizedSearchcv is preferred.

15. Evaualtion metrics for regression model are r2_score,adjustedr2_score,mean absolute error, mean squared error and root mean squared error.

MSE: The MSE is calculated as the mean or average of the squared differences between predicted and expected target values in a dataset.

RMSE: The RMSE is calculated as the mean or average of the squared differences between predicted and expected target values in a dataset. it may be common to use MSE loss to train a regression predictive model, and to use RMSE to evaluate and report its performance

MAE: The MAE does not give more or less weight to different types of errors and instead the scores increase linearly with increases in error. As its name suggests, the MAE score is calculated as the average of the absolute error values.