Review Questions?

What are the differences between regression and classification?

Explain the steps in making decision tree. What is the problem of decision tree?

How is decision tree different than random forest? How bagging is different from random forest? Can we say theoretically random forest always performs better than decision tree at test data? (Answer is Yes)? Why or why not?

What is Bias Variance tradeoff? What is Bias and Variance in Bias Variance tradeoff?

What is underfitting or overfitting?

How can you avoid overfitting your model?

How can you treat missing value if variable is categorical or numerical variable?

How Boosting is different from Bagging? What is the algorithm for Gradient Boosting Algorthitms like XGBoost?

Can we say theoretically boosting algorithms like XGBoost always performs better than decision tree at test data (Answer is No)? Why or why not?

What is regularization? Why is it needed? **Describe different regularization methods, such as L1 and L2 regularization** What parameters is needed for regularization?

How is

In case of CoVID test, which test is more important? Precison or Recall? Why?

What is ROC Curve? What is the meaning of AUC?

Write 3 python library.

 Explain cross-validation.

Evaluation metrics for classification.

Evaluation metrics for regressions

**What is the difference between a box plot and a histogram**

**What are type 1 and type 2 error?**

**How is Pearson correlation and spearman correlation different?**

**What is the difference between causality and correlation?**

**What is the difference between supervised learning and unsupervised learning?**

**Differentiate between univariate, bivariate and multivariate analysis.**

**Can you cite some examples where a false positive is important than a false negative?**

**Can you cite some examples where a false negative important than a false positive?**

### **What is Ensemble Learning?**

### **Relation between Central limit theorem and Bagging**

### Graphical user interface, text Description automatically generated

### Text, letter Description automatically generated

### Text, letter Description automatically generated

### Graphical user interface, text, Word Description automatically generated

1. a = 1
2. while True:
3. if a % 7 == 0:
4. break
5. print(a)
6. a += 1

What is correct output of this program?