1. Ans- least square error
2. Ans- linear regression is sensitive to outliers
3. Ans- negative
4. Ans- correlation
5. Ans- low bias and high variance
6. Ans- predictive modal
7. Ans- regularization
8. Ans- SMOTE
9. Ans- TPR and FPR
10. Ans- false
11. Ans- apply PCA to project high dimensional data
12. Ans- (a)- we don’t have to choose the learning rate.

(b)- it becomes show when number of features is very large.

(c)- we need to iterate.

1. Ans- Regularization is a process that change the result answer to be simpler. It is often used to obtain result for ill-posed problems or to prevent overfiting. Regularization is a set of methods for reducing overfitting in machine learning models. Typically, regularization trades a marginal decrease in training accuracy for an increase in generalizability. Regularization encompasses a range of techniques to correct for overfitting in machine learning models. The regularization term, or penalty, imposes a cost on the optimization function to make the optimal solution unique. Implicit regularization is all other forms of regularization. This includes, for example, early stopping, using a robust loss function, and discarding outliers.
2. Ans- There are a range of different regularization techniques. The most common approaches rely on statistical methods such as Lasso regularization (also called L1 regularization), Ridge regularization (L2 regularization) and Elastic Net regularization, which combines both Lasso and Ridge techniques. The right regularization can significantly improve model performance, but the wrong choice could lead to underperformance or even harm the model's predictive power, Masood cautioned. Consequently, it is important to approach regularization with a solid understanding of both the data and the problem at hand.
3. Ans- An error term represents the margin of error within a statistical model; it refers to the sum of the deviation within the regression line, which provides an explanation for the difference between the theoretical value of the model and the actual the observed results. The regression line is used as a point of analysis when attempting to determine the correlation between one independent variable and one dependent variable. An error term essentially means that the model is not completely accurate and results in differing results during real-world applications. For example, assume there a [multiple linear regression](https://www.investopedia.com/terms/m/mlr.asp) function that takes the following form:   
     
    𝑌=𝛼𝑋+𝛽𝜌+c  
    where,  
    c= error
4. Gkhkgkkfhkhkhkhkhkhkhkhkhttbgb yyyy