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

10. We can see that R2 always increases with an increase in the number of independent variables. Thus, it doesn't give a better picture and so we need Adjusted R2 value to keep this in check. Mathematically, it is calculated as:
    $R^2_{adj} = 1 – [(1 - R^2)(N - 1)]/(N – p - 1)$
    In the equation above, when p = 0, we can see that adjusted R2 becomes equal to R2. Thus, adjusted R2 will always be less than or equal to R2, and it penalises the excess of independent variables which do not affect the dependent variable.

11. Lasso –
    i) LASSO penalizes the model based on the sum of magnitude of coefficients
    ii) It excludes unimportant features

    Ridge –

    i) It adds penalty term to the cost function.
    ii) It reduces weightage of unimportant features

12. The Variance Inflation Factor (VIF) measures the severity of multicollinearity in regression analysis. It is a statistical concept that indicates the increase in the variance of a regression coefficient as a result of collinearity. Generally, a VIF score below 5 indicates that theres no multicollinearity, but it could vary with the dataset.

13. Scaling helps remove issues caused by unit of measurement, its standardizes data making it about numbers. Scaling the target value is a good idea in regression modelling; scaling of the data makes it easy for a model to learn and understand the problem.

14. Different metrics which are used to check the goodness of fit in linear regression are: Mean Squared Error (MSE), Root Mean Squared Error (RMSE), Mean Absolute Error (MAE).

15. Results –
    i) Accuracy = 0.88
    ii) Recall/Sensitivity = 0.8
    iii) Precision = 0.95
    iv) Specificity = 0.96