

D2

21. When implementing linear regression of some dependent variable y on the set of independent variables $\mathbf{x} = (x_1, \dots, x_r)$, where r is the number of predictors, which of the following statements will be true?

Ans. both a) and b)

22. What indicates that you have a perfect fit in linear regression?

Ans. d) the value $R^2 = 1$, which corresponds to $SSR = 0$

23. In simple linear regression, the value of what shows the point where the estimated regression line crosses the y axis?

Ans. a) Y

24. Which one represents an underfitted model?

Ans. a) the bottom-left plot

25. There are five basic steps when you're implementing linear regression:

Ans. d) d, b, e, a, c

26. Which of the following are optional parameters to LinearRegression in scikit-learn?

Ans. b) `fit_intercept` c) `normalize` d) `copy_X`

27. While working with scikit-learn, in which type of regression do you need to transform the array of inputs to include nonlinear terms such as x^2 ?

Ans. c) Polynomial Regression

28. You should choose statsmodels over scikit-learn when:

Ans. c) you need more detailed results.

29. _____ is a fundamental package for scientific computing with Python. It offers comprehensive mathematical functions, random number generators, linear algebra routines, Fourier transforms, and more. It provides a high-level syntax that makes it accessible and productive.

Ans. b) Numpy

30. _____ is a Python data visualization library based on Matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics that allow you to explore and understand your data. It integrates closely with pandas data structures.

Ans. b) Seaborn