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

Output: $\beta_0, \beta_1, \ldots, \beta_r$ are the regression coefficients

Option: a

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

Output: The value $R^2 = 1$, which corresponds to SSR = 0

Option: d

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

Output: Y

Option: a

24. Check out these four linear regression plots:

Output: The top-left plot

Option: d

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

Output: d, b, e, a, c

Option: d

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

Output: fit_intercept

Option: b

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?

Output: Multiple linear regression

Option:A

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

Output: You need more detailed results

Option:c

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.

Output:Numpy

Option: b

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.

Output:Seaborn

Option: b