

**Q21** 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** b) Linear regression is about determining the best predicted weights by using the method of ordinary least squares

**Q22)** What indicates that you have a perfect fit in linear regression?

**ANS** d) The value  $R^2 = 1$ , which corresponds to  $SSR = 0$

**Q23)** In simple linear regression, the value of what shows the point where the estimated regression line crosses the  $y$  axis?

**ANS** b)  $B_0$

**Q24)** Check out these four linear regression plots: Which one represents an underfitted model?

**ANS** d) The top-left plot

**Q25)** There are five basic steps when you're implementing linear regression:

- a. Check the results of model fitting to know whether the model is satisfactory.
- b. Provide data to work with, and eventually do appropriate transformations.
- c. Apply the model for predictions.
- d. Import the packages and classes that you need.
- e. Create a regression model and fit it with existing data.

However, those steps are currently listed in the wrong order. What's the correct order?

**ANS** d) d, b, e, a, c

**Q26)** Which of the following are optional parameters to LinearRegression in scikit-learn?

**ANS** b) `fit_intercept` c) `normalize` d) `copy_X` e) `n_jobs`

**Q27)** 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

**Q28)** You should choose statsmodels over scikit-learn when:

**ANS** c) You need more detailed results.

**Q29)** \_\_\_\_\_ 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

**Q30)** \_\_\_\_\_ 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