

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 :-**  $\beta_0, \beta_1, \dots, \beta_r$  are the **regression coefficients**.

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

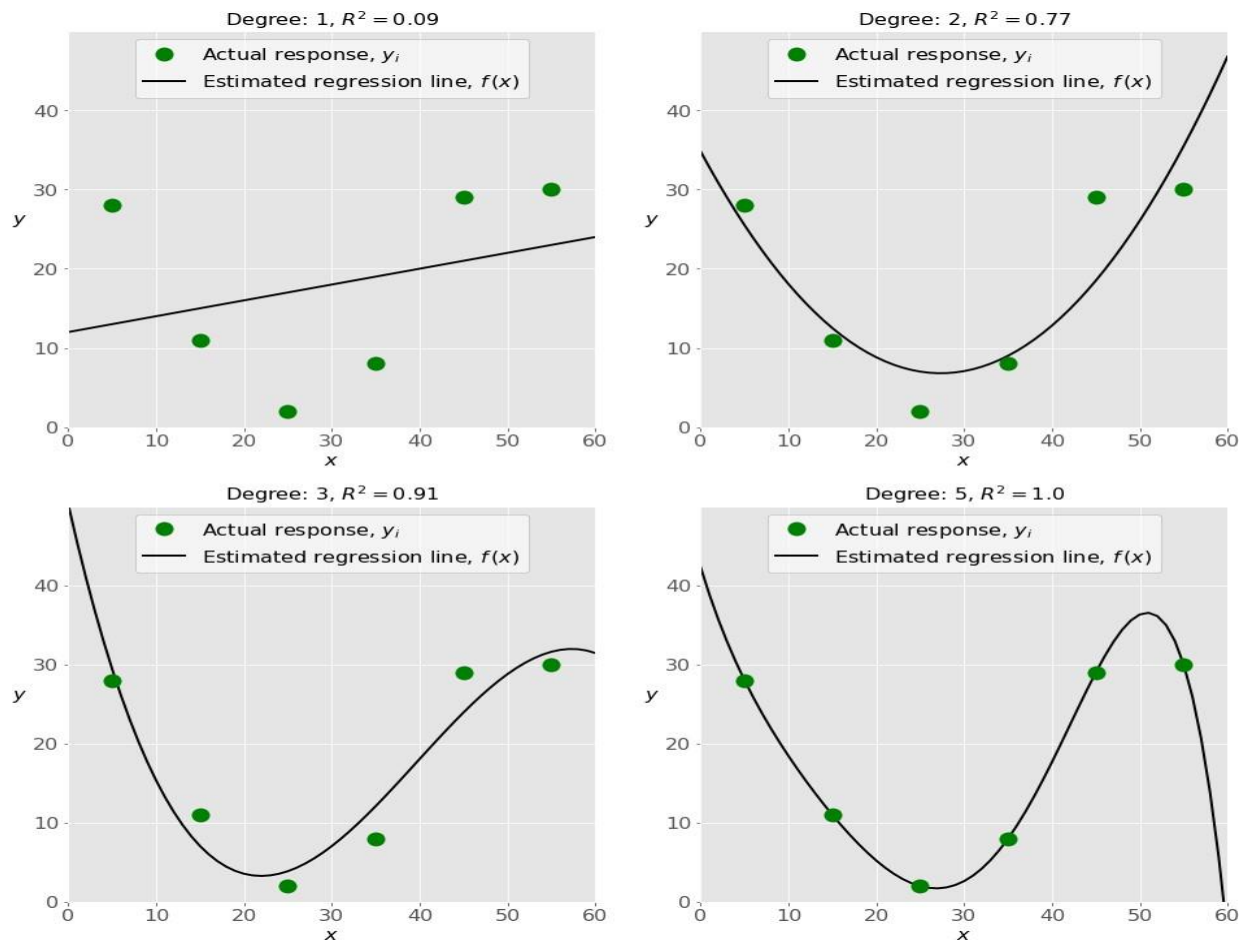
**Ans :-** The value  $R^2 = 1$ , which corresponds to  $SSR = 0$

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

**Ans :-**  $B_0$

24)

Check out these four linear regression plots:



Which one represents an **underfitted** model?

**Ans :-** The top-left plot

25)

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, b, e, a, c

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

**Ans :-**

- a) fit\_intercept
- b) normalize
- c) copy\_X
- d) n\_jobs

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 :-** Polynomial regression.

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

**Ans :-** 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 :-** 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 :-** Seaborn