

**21)** When implementing linear regression of some dependent variable  $Y$  on the set of independent variables  $X = (X_1, \dots, X_p)$ , where  $p$  is the number of predictors, which of the following statements will

be true?

- a)  $\beta_0, \beta_1, \dots, \beta_p$  are the regression coefficients.
- b) Linear regression is about determining the best predicted weights by using the method of ordinary least squares.
- c)  $E$  is the random interval
- d) Both a and b

Answer- d) Both a and b

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

- a) The value  $R^2 < 1$ , which corresponds to  $SSR = 0$
- b) The value  $R^2 = 0$ , which corresponds to  $SSR = 1$
- c) The value  $R^2 > 0$ , which corresponds to  $SSR = 1$
- d) The value  $R^2 = 1$ , which corresponds to  $SSR = 0$

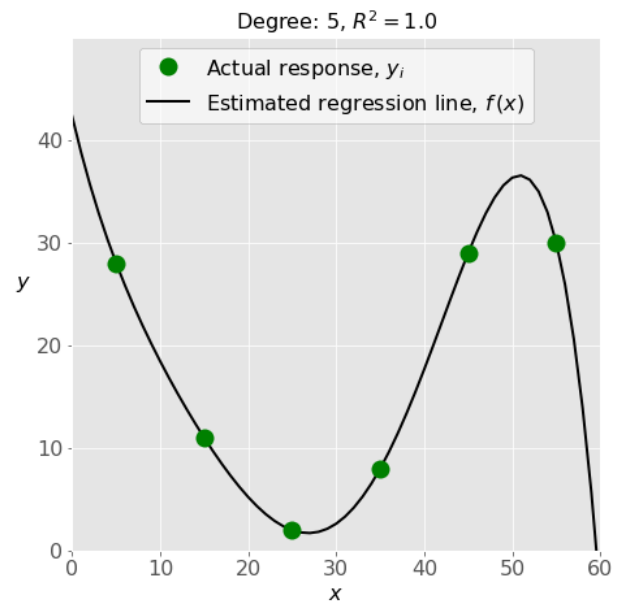
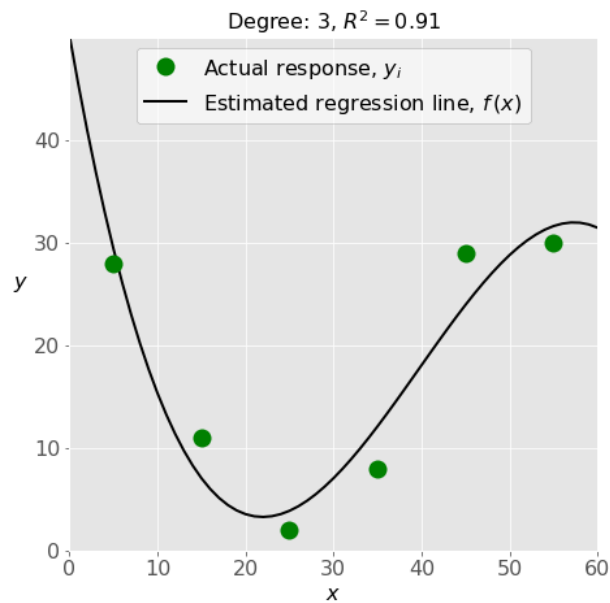
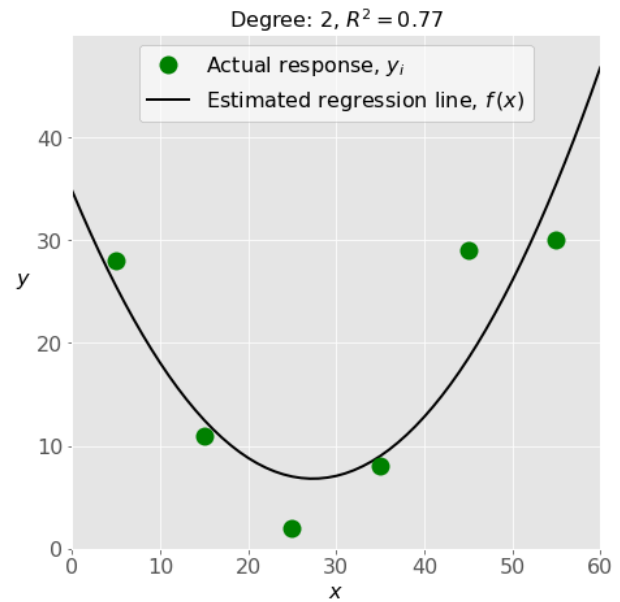
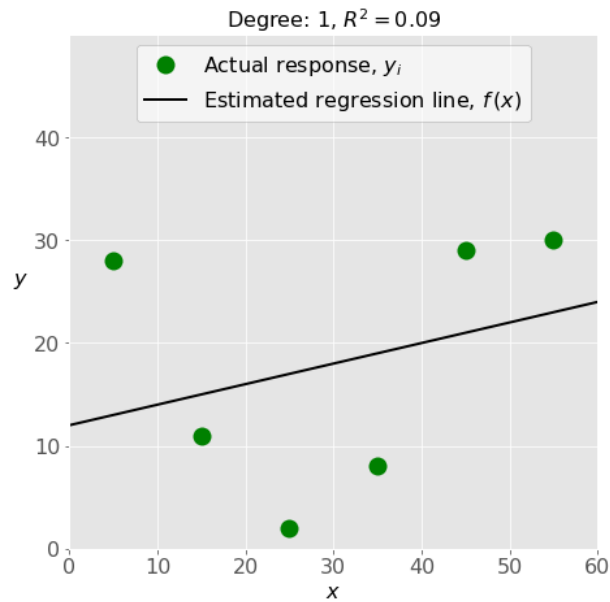
Answer- d) The value  $R^2 = 1$ , which corresponds to  $SSR = 0$

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

- a)  $Y$
- b)  $B_0$
- c)  $B_1$
- d)  $F$

Answer-b)bo

24) Check out these four linear regression plots:



Which one represents an **underfitted** model?

- a) The bottom-left plot
- b) The top-right plot
- c) The bottom-right plot
- d) The top-left plot

Answer –d) 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?

- a) e, c, a, b, d
- b) e, d, b, a, c
- c) d, e, c, b, a
- d) d, b, e, a, c

Answer-d) d,b,e,a,c

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

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

f) reshape

Answer –b) fit intercept,c) normalize,d) copy\_x e) 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  $x^2$ ?

a) Multiple linear regression

b) Simple linear regression

c) Polynomial regression

Answer-polynomial regression

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

A) You want graphical representations of your data.

b) You're working with nonlinear terms.

c) You need more detailed results.

d) You need to include optional parameters.

Answer- 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.

a) Pandas

b) Numpy

c) Statsmodel

d) scipy

Answer- 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.

- a) Bokeh
- b) Seaborn
- c) Matplotlib
- d) Dash

Answer- b) Seaborn

**41)** Among the following identify the one in which dimensionality reduction reduces.

- a) Performance
- b) statistics
- c) Entropy
- d) Collinearity

Answer - d) Collinearity

**42)** Which of the following machine learning algorithm is based upon the idea of bagging?

- a) Decision Tree
- b) Random Forest
- c) Classification
- d) SVM

Answer- b) Random Forest

**43)** Choose a disadvantage of decision trees among the following.

- a) Decision tree robust to outliers
- b) Factor analysis
- c) Decision Tree are prone to overfit
- d) all of the above

Answer- c) Decision Tree are prone to overfit

**44)** What is the term known as on which the machine learning algorithms build a model based on sample data?

- a) Data Training
- b) Sample Data
- c) Training data
- d) None of the above

Answer- c) Training data

**45)** Which of the following machine learning techniques helps in detecting the outliers in data?

- a) Clustering
- b) Classification
- c) Anamoly detection
- d) All of the above

Answer- c) Anamoly detection

**46)** Identify the incorrect numerical functions in the various function representation of machine learning.

- a) Support Vector
- b) Regression
- c) Case based
- d) Classification

Answer-Case Based

**47)** Analysis of ML algorithm needs

- a) Statistical learning theory
- b) Computational learning theory
- c) None of the above
- d) Both a and b

Answer- d) Both a and b

**48)** Identify the difficulties with the k-nearest neighbor algorithm.

- a) Curse of dimensionality
- b) Calculate the distance of test case for all training cases
- c) Both a and b
- d) None

Answer- c) Both a and b

**49)** The total types of the layer in radial basis function neural networks is \_\_\_\_\_

- a) 1
- b) 2
- c) 3
- d) 4

Answer- c) 3

**50)** Which of the following is not a supervised learning

- a) PCA
- b) Naïve bayes
- c) Linear regression
- d) KMeans

Answer- a) PCA