Question 21. When implementing linear regression of some dependent variable 𝑦 on the set of independent variables 𝐱 = (𝑥₁, …, 𝑥ᵣ), where 𝑟 is the number of predictors, which of the following statements will be true?

a) 𝛽₀, 𝛽₁, …, 𝛽ᵣ 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 and b

ANSWER 21. D) Both a and b

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

a) The value 𝑅² < 1, which corresponds to SSR = 0

b) The value 𝑅² = 0, which corresponds to SSR = 1

c) The value 𝑅² > 0, which corresponds to SSR = 1

d) The value 𝑅² = 1, which corresponds to SSR = 0

ANSWER 22- OPTION d) The value 𝑅² = 1, which corresponds to SSR = 0

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

a) Y

b) B0

c) B1

d) F

ANSWER- OPTION b) B0

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- OPTION d) The top-left plot

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