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

- a)  $\beta_0, \beta_1, ..., \beta_r$  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

Ans:  $\mathbf{D} - \mathbf{Both}$  and  $\mathbf{b}$ 

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

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

23)

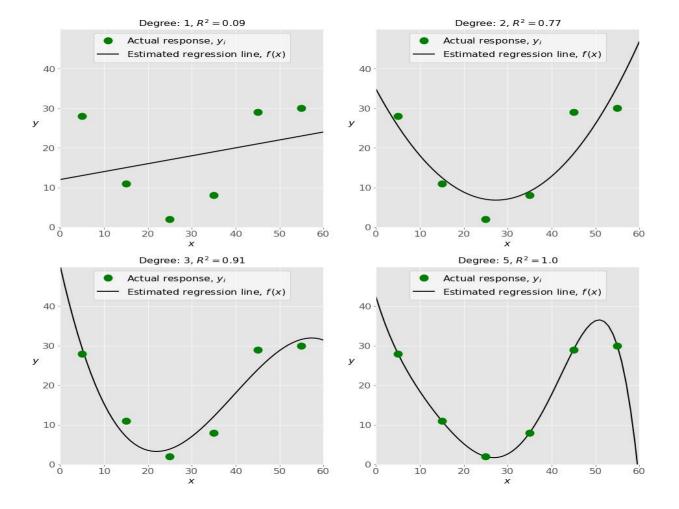
In simple linear regression, the value of **what** shows the point where the estimated regression line crosses the *y* axis?

- a) Y
- b) B0
- c) B1
- d) F

Ans:  $\mathbf{B} - \mathbf{B0}$ 

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

Ans: **B** - The top-right 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?

c)	d, e, c, b, a
d)	d, b, e, a, c
Ans: C	- d, e, c, b, a
26 ) W	hich of the following are optional parameters to LinearRegression in scikit-learn?
a)	Fit
b) c)	fit_intercept normalize
,	copy_X
e)	n_jobs
f)	reshape
Ans: B,	D,E
	tile working with scikit-learn, in which type of regression do you need to transform the array of to include nonlinear terms such as $x^2$ ?
a)Mult	iple linear regression
b) Simp	ole linear regression
c) Poly	nomial regression
Ans: C	- Polynomial regression
28) Yo	u 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.
Ans: C	You need more detailed results.
compre	is a fundamental package for scientific computing with Python. It offers thensive mathematical functions, random number generators, linear algebra routines, Fourier rms, and more. It provides a high-level syntax that makes it accessible and productive.
a) Panc	las
b) Nun	пру
c) Stats	emodel
d) Scip	y

a) e, c, a, b, db) e, d, b, a, c

## Ans: $\mathbf{B} - \mathbf{Numpy}$

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

Ans: B - Seaborn