Course:	0304 Fundamentals of Predictive Modelling
Assessment:	Fundamentals of Predictive Modelling Concepts
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If the R squared value of a regression model with X1 as the dependent variable and other predictors as independent variables is 0.80, then the variance inflation factor for independent variable X1 is: 1 / 1

- ○ 10
- ○ 2.5
- ◉ None of these

Correct answer
None of these

Feedback

- Yes, that is correct.

Is this statement true or false?

In a linear regression model, the higher the root mean squared error (RMSE), the better the model fit. 1 / 1

- ○ True
- ◉ False

Correct answer
False

Feedback

- That is correct! Well done!

Is this statement true or false?

In the K fold cross validation method, K is the number of parameters in a linear regression model 1 / 1

- ○ True
- ◉ False

Correct answer
False

Feedback

- That is correct! Well done!

Is this statement true or false?

The regression coefficient in a multiple linear regression model can never be negative.

1 / 1

- ○ True

◉ False

Correct answer
False

The statistical significance of each independent variable in a linear model is assessed using the criterion:
1 / 1

○ R squared > 0.60
◉ P value 0.05
○ Standard Error 0.05

Correct answer
P value 0.05

Is this statement true or false?

A multicollinearity problem exists if independent variables have very high variability in sample data 1 / 1

○ True
◉ False

Correct answer
False

Is this statement true or false?

In Multiple linear regression, errors are assumed to follow a normal distribution.

1 / 1

- ◉ True
- ○ False

Correct answer
True

In a linear model, RMSE is:

1 / 1

- ○ Root mean significant error
- ◉ Root mean squared error
- ○ Root mean standard error

Correct answer
Root mean squared error

Is this statement true or false?

In multiple linear regression, the test statistic based on a t distribution for testing the significance of the regression coefficient is defined as estimated coefficient divided by R squared.

1 / 1

- ○ True
- ◉ False

Correct answer
False

Is the statement true or false?

In multiple linear regression, R squared is defined as explained variation divided by unexplained variation 1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?
The residual value in linear regression is always positive

1 / 1

- ○ True
- ◉ False

Correct answer
False

If errors in multiple linear regression follow a normal distribution, then it confirms that:

1 / 1

- ○ Errors in the model are very low
- ○ Multicollinearity is absent
- ◉ None of these

Correct answer
None of these

Is this statement true or false?

Assuming there are 10 independent variables in multiple linear regression, the R squared value = 0.5 indicates exactly 5 regression coefficients are statistically significant. 1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?

The intercept term in multiple linear regression cannot be negative 1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?

The sum of regression coefficients in multiple linear regression is always zero.
1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?

In the case of multiple linear regression, a negative estimated value of the regression coefficient indicates an insignificant regression coefficient. 1 / 1

- ○ True
- ◉ False

Correct answer
False

Ordinary least squares are one of the methods for:

1 / 1

- ○ Outlier detection
- ○ Assessing symmetry of data
- ◉ Neither of these

Correct answer
Neither of these

Which of the following is a remedial measure for multicollinearity problems in multiple linear regression?

1 / 1

- ○ Logistic Regression
- ◉ Ridge Regression
- ○ Poisson Regression

Correct answer
Ridge Regression

Is this statement true or false?

If the R squared value in multiple linear regression is 0.90, then the value of error sum of squares is 0.30 1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?

The regression coefficient b represents a change in variable X, when the dependent variable Y changes by one unit

1 / 1

- ○ True
- ◉ False

Correct answer
False

Which of the following measures is used to validate a multiple linear regression model using the holdout method?

1 / 1

- ◉ RMSE
- ○ VIF values
- ○ None of these

Correct answer

RMSE

Is this statement true or false?

An R squared value of 0.80 indicates that the explained variation is 80% of the total variation in the dependent variable. 1 / 1

- True
- False

Correct answer

True

Is this statement true or false?

The root mean squared error in linear regression is always a number between -1 and +1 1 / 1

- True
- False

Correct answer

False

Is this statement true or false?

Consider the null hypothesis H0. All regression coefficients are zero. If this null

hypothesis is rejected, then all regression coefficients are statistically significant. 1 / 1

- ○ True
- ◉ False

Correct answer
False

Is this statement true or false?

If X1 is an independent variable and the square of X1 is added as one of the independent variables, then the model remains as multiple linear regression. 0 / 1

- ○ True
- ◉ False

Correct answer
True

Is the following statement true or false?

OLS in multiple linear regression stands for Ordinary Least Squares

1 / 1

- ◉ True
- ○ False

Correct answer
True

Feedback

- That is correct! Well done!

Is the following statement true or false?

1) All regression coefficients in a multiple linear regression model should have the same sign.

1 / 1

- ○ True
- ◉ False

Correct answer

False

Feedback

- That is correct! Well done!

Is the following statement true or false?

A variable measured on nominal scale can be included in linear regression as an independent variable

1 / 1

- ◉ True
- ○ False

Correct answer

True

Feedback

- That is correct! Well done!

Is the following statement true or false?

A multicollinearity problem exists if any independent variable has a very high correlation with the dependent variable.

1 / 1

- ○ True
- ◉ False

Correct answer

False

Feedback

- That is correct! Well done!