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Course outline

How does an NPTEL online course work?

Setup Guide

Pre Course Material

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Cross Validation (unit?unit=86&lesson=87)

Multiple Linear Regression

Week 7: Assignment 7

The due date for submitting this assignment has passed.

Due on 2021-09-15, 23:59 IST.

Assignment submitted on 2021-09-12, 15:19 IST

Based on the information given below answer the questions 1 to 5:

Description: Auto.csv (https://drive.google.com/file/d/1pt-QG2cC7DKPVMN1njBWhz9gj_GQAwSS/view?usp=sharing) dataset contains the details about the different parts of the cars.
Objective of this problem is to predict mpg (mile per gallon) using the other predictors given in the dataset.

Variables	Description
mpg	miles per gallon
cylinders	Number of cylinders between 4 and 8
displacement	Engine displacement (cu. inches)
horsepower	Engine horsepower
weight	Vehicle weight (lbs.)
acceleration	Time to accelerate from 0 to 60 mph (sec)

1) The total number of missing values in the data frame is. ***1 point***

- 3
- 0
- 5
- None of the above

Yes, the answer is correct.
Score: 1

Modelling Building and Selection (unit?unit=86&lesson=88)
Classification (unit?unit=86&lesson=89)
Logisitic Regression (unit?unit=86&lesson=90)
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Practice: Week 7: Assignment 7 (Non Graded) (assessment?name=126)
Quiz: Week 7: Assignment 7 (assessment?name=139)
Week 7: Solutions (unit?unit=86&lesson=145)
Week 8

Accepted Answers:
0

2) The Pearson's correlation coefficient between **mpg** & **acceleration** is (rounded off to two decimal places): - ***1 point***

- (•) 0.42
- ( ) -0.83
- ( ) -0.77
- ( ) None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
0.42

Build a linear regression model **"lr_model"** using all the variables in the data. Questions 3, 4 and 5 below are based on the **"lr_model".**

3) What is the value of adjusted R-Squared for **"lr_model"**? ***1 point***

- ( ) 0.6521
- ( ) 0.7542
- (•) 0.7039
- ( ) None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
0.7039

4) The coefficient of the variable 'displacement' is: ***1 point***

- ( ) -3.979e-01
- ( ) -2.910e-02
- (•) -8.313e-05
- ( ) None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
-8.313e-05

5) Which of the variables is not significant in "lr_model"? ***1 point***

- (•) cylinders
- ( ) weight
- ( ) horsepower
- ( ) None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
cylinders

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Consider the following confusion matrix to answer Q6 and Q7.

		Actual	
		Accept	Reject
Predicted	Accept	15	5
	Reject	1	5

6) The accuracy of the model is (rounded off to two decimal places): - ***1 point***

- 0.71
- 0.65
- 0.77
- None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
0.77

7) The sensitivity pertaining to the given confusion matrix is (rounded off to two decimal places) ***1 point***

- 0.94
- 0.71
- 0.82
- None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
0.94

8) Which command is used to build a logistic regression model in R? ***1 point***

- glm ()
- lm()
- glr ()
- None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
glm ()

9) The Logistic regression tends to overfit when we have large number of independent variables present. ***1 point***

- True
- False

Yes, the answer is correct.
Score: 1
Accepted Answers:
True

10) An ROC curve is plotted between. ***1 point***

- Sensitivity and Specificity
- Sensitivity and (1 – Specificity)
- (1 – Sensitivity) and Specificity
- None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Sensitivity and (1 – Specificity)