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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Business analytics and data mining Modeling using R (course)

Course outline

- How does an NPTEL online course work? ()
- Week 0 ()
- Week 1 ()
- Week 2 ()
- Week 3 ()
- Lecture 11 VISUALIZATION TECHNIQUES PART-5 (unit?unit=35&lesson=36)
- Lecture 12 VISUALIZATION TECHNIQUES PART-6 (unit?unit=35&lesson=37)
- Lecture 13 DIMENSION REDUCTION TECHNIQUES

Week 3 : Assignment 3

The due date for submitting this assignment has passed.

Due on 2023-02-15, 23:59 IST.

Assignment submitted on 2023-02-15, 12:12 IST

1) Which of the followings are not true about heatmaps? ***1 point***

- ○ Useful to visualize corelations between variables.
- ◉ Useful to visiualize class separation.
- ○ Color themes are used to indicate values.
- ○ None of the above.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Useful to visiualize class separation.

2) Which of the followings are true about multi-dimensional visualisation? ***1 point***

- ☑ Multiple panels having plots between different variables.
- ☐ Many plots each with one or two variables.
- ☑ Marker color can be used to represent 3rd variable.
- ☐ None of the above.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Multiple panels having plots between different variables.
Marker color can be used to represent 3rd variable.

3) Which of the following steps would be better for reducing dimensionality of a dataset? ***1 point***

- (●) Removing columns which have too many missing values.
- ( ) Removing columns with dissimilar data trends.
- ( ) Removing columns which have high variance in data.
- ( ) None of the above.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Removing columns which have too many missing values.

4) Which of the following is true about principal component analysis (PCA)? ***1 point***

I: PCA is a supervised technique.
II: PCA searches for the directions where data have the largest variance.
III: Maximum number of principal components is equal to number of features.
IV: All principal components are orthogonal to each other.

- [x] I and II
- [x] I, II, and IV
- [x] II and III
- [ ] None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
I and II
I, II, and IV
II and III

5) Which of the followings are dimension reduction techniques? ***1 point***

I: Domain knowledge
II: Data exploration techniques
III: Data conversion techniques
IV: Automated reduction techniques
V: Data mining techniques

- [x] II, IV and V
- [x] I, III and IV
- [x] I, IV and V
- [ ] None of the above

Yes, the answer is correct.
Score: 1
Accepted Answers:
II, IV and V
I, III and IV
I, IV and V

6) When we add an irrelevant feature to a linear regression model, it may result in: ***1 point***

I: An increase in R-square
II: A decrease in R-sq

- (●) Only I is correct
- ( ) Only II is correct
- ( ) Either I or II is correct
- ( ) None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Only I is correct

7) Which of the following is suitable only for predicting a class? ***1 point***

- ( ) Linear regression
- ( ) Correlation
- ( ) Decision trees
- (●) Naïve Bayes

Yes, the answer is correct.
Score: 1

Accepted Answers:
Naïve Bayes

8) Which of the following is true about correlation analysis? ***1 point***

- ( ) Used to estimate the effects of multiple independent variables on a dependent variable.
- ( ) Used to predict values of y based on values of x.
- (●) Used to measure the strength of association between two variables
- ( ) None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Used to measure the strength of association between two variables

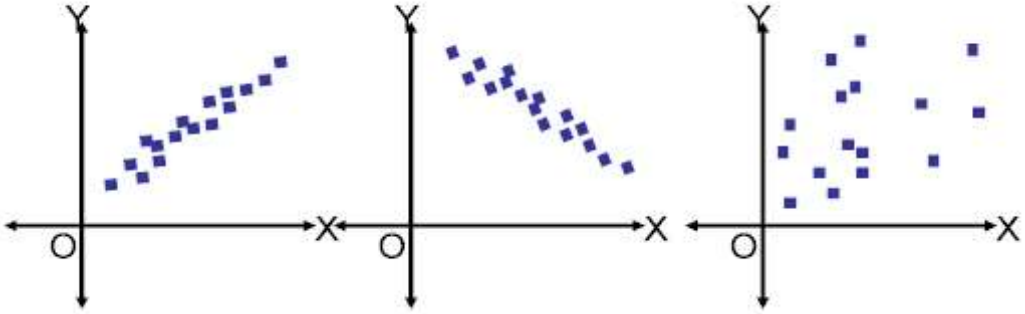
9) Which of the following is a way to measure the degree of linear association between two quantitaitve variables? ***1 point***

- (●) Pearson correlation coefficient
- ( ) Significance level
- ( ) p-value
- ( ) None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Pearson correlation coefficient

10) Consider the three scatter plots given below, which of the followings are examples of multi-collinear features? ***1 point***



- Features in plots 1&3
- Features in plots 2&3
- Features in plots 1&2
- None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
Features in plots 1&2