

Unit 14 - Week 12

Course outline

How does an NPTEL online course work?

Prerequisite Assignment

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Week 2

Week 3

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Week 11

Week 12

Applications of bioinformatics - I

Applications of bioinformatics - II

Overview - I

Overview - II

Demo: Weka

Quiz : Assignment 12

Quiz : Practice Assignment 12

Bio-Informatics:Algorithms and Applications : Week 12 Feedback Form

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Assignment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-22, 23:59 IST.

1) For predicting the type of a test protein, X, between two groups of proteins, A and B, based on amino acid composition, which of the following statement holds good **1 point**

- Correlation between X and A is higher than B, it belongs to A
- Deviation between X and A is higher than B, it belongs to A
- Deviation between X and A is higher than B and correlation between X and B is lower than A, it belongs to B
- All the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Correlation between X and A is higher than B, it belongs to A

2) PDBTM provides the data on **1 point**

- Structures of transmembrane helical proteins
- Structures of transmembrane strand proteins
- Structures of transmembrane helical and strand proteins
- Structures and sequences of transmembrane helical and strand proteins

No, the answer is incorrect.
Score: 0

Accepted Answers:
Structures and sequences of transmembrane helical and strand proteins

3) In k-means clustering, k is meant for **1 point**

- Number of data
- Number of features
- Number of clusters
- All the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Number of clusters

4) Output of WEKA provides information on **1 point**

- Sensitivity
- Specificity
- Accuracy
- All the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All the above

5) Select the unsupervised learning algorithm **1 point**

- Linear regression
- Logistic regression
- Multiple linear regression
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above

6) Select the supervised learning algorithm. **1 point**

- Principal component analysis
- k-means clustering
- Self-organizing maps
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above

7) Weka is used for **1 point**

- Regression
- Classification
- Clustering
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above

8) Choose an algorithm for prediction of protein stability **1 point**

- Principal component analysis
- k-means clustering
- Logistic Regression
- Linear Regression

No, the answer is incorrect.
Score: 0

Accepted Answers:
Linear Regression

9) What would be the output of the function $f(x) = \text{sgn}(w_0 + w_1 * x_1 + w_2 * x_2)$, if; w_0, w_1, w_2, x_1, x_2 are -1.5, 1.5, 1, 1, and 0, respectively. **1 point**

$$\text{sgn}(x) = \begin{cases} 1 & \text{if } x \geq 0 \\ 0 & \text{if } x = 0 \\ -1 & \text{if } x < 0 \end{cases}$$

- 0
- 1
- 0.5
- 1

No, the answer is incorrect.
Score: 0

Accepted Answers:
1

10) For a given method, sensitivity and specificity are 90.5% and 85.5%. If we label the positive as negative class and negative as positive class., what would **1 point**

be the sensitivity and specificity?

- 90.5 and 85.5
- 85.5 and 90.5
- 88.0 and 88.0
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
85.5 and 90.5