

# Unit 15 - Week 11: Machine Learning - II

## Course outline

### How to access the portal

### Week 0: Prerequisites

### Week 1: AI and AI Problem Solving

### Week 2: Problem Solving by Search - I

### Week 3: Problem Solving by Search - II

### Week 4: Knowledge Representation and Reasoning - I

### Week 5: Knowledge Representation and Reasoning - II

### Live Session-1

### Week 6: Knowledge Representation and Reasoning - III

### Week 7: Reasoning under Uncertainty

### Week 8: Planning

### Week 9: Planning and Decision Making

### Live Session-2

### Week 10: Machine Learning -I

### Week 11: Machine Learning - II

Lec 1: Linear Regression

Lec 2: Support Vector Machines

Lec 3: Unsupervised Learning

Quiz : Assignment 11

Feedback Form

### Week 12: Machine Learning - III

## Assignment 11

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

**Due on 2019-10-16, 23:59 IST.**

1) Who proposed the original Support Vector Machine algorithm? 1 point

- A. Patrick Winston  
 B. Vladimir N. Vapnik  
 C. Herbert Simon  
 D. Tom M. Mitchell

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
B. Vladimir N. Vapnik

2) In SVM classification, examples closest to the hyperplane separating the +ve from the -ve samples are the \_\_\_\_\_ 1 point

- A. Support vectors  
 B. Outliers  
 C. Marginal  
 D. Boundary points

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
A. Support vectors

3) The \_\_\_\_\_ avoids the explicit mapping to get linear learning algorithms to learn a nonlinear function or decision boundary 1 point

- A. Kernel function  
 B. Lagrangian Multipliers  
 C. Maximum margin  
 D. Support vector machines

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
A. Kernel function

4) Which of the following statements are correct for a Maximum Margin Classifier? 1 point

- I. Best hyperplane is the one that represents the largest separation, or margin, between the two classes.  
 II. The linear classifier defined by the maximum-margin hyperplane is known as a maximum-margin classifier.

- A. Statements I and II  
 B. Only Statement II  
 C. Only Statement I  
 D. None

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
A. Statements I and II

5) Certain clustering techniques are not based on the assumption that substructures exist in the clusters. On the contrary, data may be organized in a manner that clusters have subclusters within subclusters and so on. This leads to \_\_\_\_\_ clustering 1 point

- A. Partitional  
 B. Hierarchical  
 C. Spectral  
 D. Organizational

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
B. Hierarchical

6) Hierarchical clustering produce a nested sequence of clusters, a tree, also called a \_\_\_\_\_. 1 point

- A. Agglomeration  
 B. Dendrogram  
 C. Concept Map  
 D. Taxonomy

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
B. Dendrogram

7) Data points that are very far away from other data points could be errors in the data recording or some special data points with very different values. These are called \_\_\_\_\_. 1 point

- A. random points.  
 B. outliers  
 C. approximations  
 D. errors.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
B. outliers

8) Hierarchical algorithms find successive clusters using previously established clusters. \_\_\_\_\_ begin with each element as a separate cluster and merge them into successively larger cluster. 1 point

- A. Agglomerative algorithms  
 B. Divisive algorithms  
 C. Bayesian algorithms  
 D. Partitional algorithms

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
A. Agglomerative algorithms

9) Intra-cluster cohesion measures how near the data points in a cluster are to the cluster centroid and is a reflection of \_\_\_\_\_. 1 point

- A. Similarity.  
 B. Dissimilarity.  
 C. Compactness.  
 D. Isolation.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
C. Compactness.

10) Exclusive reliance on dot products enables approach to solve non-linear problems in a support vector machine because of the following \_\_\_\_\_ 1 point

- I. Learning depends only on dot products of sample pairs.  
 II. Classification depends only on dot products of unknown with samples.

- A. Only statement I.  
 B. Statements I and II above.  
 C. Only statement II.  
 D. None of above.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
B. Statements I and II above.