

## MACHINE LEARNING

1. Which of the following are disadvantages of using Hard Margin SVM classifier?
  - A) They allow misclassifications, that's why they are not optimal.
  - B) They cannot be used when the data is not completely linearly separable while allowing no errors.
  - C) They are not optimal to use in case of outliers.
  - D) None of the above.**Ans:-(B)**
2. Which of the following statements are true regarding maximal margin classifier?
  - A) It is the most optimal classifier in a completely linearly separable data.
  - B) It's the classifier for which the margin length or the distance between the closest data-point on either side of the classifier and the classifier is maximized.
  - C) Any possible classifier which can linearly separate the data of two classes is called maximal margin classifier.
  - D) All of the above.**Ans:-(B)**
3. Which of the following statements are true regarding soft margin SVM classifier?
  - A) They are less sensitive to outliers and can be used even in their presence.
  - B) They make sure that there is no data point present in the margin area.
  - C) They allow some degree of errors or misclassification.
  - D) They can be used in case data is not completely linearly separable.**Ans:-(B)**
4. Which of the following statements are true regarding SVMs?
  - A) They take the data from lower dimensional space to some higher dimensional space in case the data is not likely to be linearly separable.
  - B) They use the kernel tricks to escape the complex computations required to transform the data.
  - C) If the data is not linearly separable SVM technique cannot be used.
  - D) All of the above.**Ans:-(B)**
5. Which of the following Statements are true regarding the Kernel functions used in SVM?
  - A) These functions gives value of the dot product of pairs of data-points in the desired higher dimensional space without even explicitly converting the whole data in to higher dimensional space.
  - B) We have to first convert the whole data in to the higher dimensional space before applying the kernel function.
  - C) The data product values given by the kernel functions are used to find the classifier in the higher dimensional space.
  - D) None of the above**Ans:-(A)**
6. How can SVM be classified?
  - A) It is a model trained using unsupervised learning. It can be used for classification and regression.
  - B) It is a model trained using unsupervised learning. It can be used for classification but not for regression
  - C) It is a model trained using supervised learning. It can be used for classification and regression.
  - D) It is a model trained using supervised learning. It can be used for classification not for regression.**Ans:-(C)**
7. The quality of an SVM model depends upon:
  - A) Selection of Kernel
  - B) Kernel Parameters
  - C) Soft Margin Parameter C
  - D) All of the above**Ans:-(D)**

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8. The SVM's are less effective when:
- A) The data is linearly separable.
  - B) The data is clean and ready to use.
  - C) The data is noisy and contains overlapping points.
  - D) None of these.

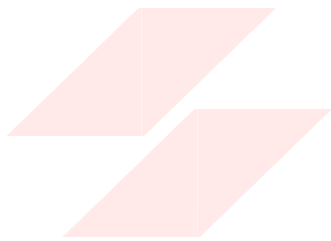
**Ans:-(A)**

9. What would happen when you use very small C ( $C \sim 0$ )?
- A) Misclassification would happen.
  - B) Data will be correctly classified.
  - C) Can't say
  - D) None of these.

**Ans:-(A)**

10. What do you mean by generalization error in terms of the SVM?
- A) How far the hyperplane is from the support vectors.
  - B) How accurately the SVM can predict outcomes for unseen data.
  - C) The threshold amount of error in an SVM.
  - D) None of these.

**Ans:-(B)**



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