

1. What is the output of a single-layer perceptron?

- A) Continuous value
- B) Binary value
- C) Categorical value
- D) Integer value

2. Which type of data can a perceptron model classify?

- A) Non-linear data
- B) Random data
- C) Linearly separable data
- D) All types of data

3. The perceptron learning algorithm is primarily used for:

- A) Clustering
- B) Regression
- C) Classification
- D) Dimensionality reduction

4. What is one limitation of the perceptron model?

- A) It cannot learn from data
- B) It requires extensive computation
- C) It only outputs binary classifications
- D) It is not capable of online learning

5. The perceptron can only categorize input vectors into:

- A) Multiple classes

- B) Two classes
- C) Any number of classes
- D) Continuous ranges

Perceptron Learning Algorithm

6. The perceptron learning algorithm updates weights based on:
- A) All instances
 - B) Misclassified instances
 - C) Random instances
 - D) A subset of instances
7. When an input vector is misclassified, the weight vector is updated by:
- A) Adding the input vector
 - B) Subtracting the input vector
 - C) Multiplying by a factor
 - **D) Both A and B**
8. In the perceptron learning algorithm, what happens if an instance is classified correctly?
- A) The weights are updated
 - B) The weights remain unchanged
 - C) The instance is removed from the dataset
 - D) A new instance is added
9. The purpose of the perceptron learning algorithm is to:
- A) Minimize the training error
 - B) Maximize the training error
 - C) Create a new dataset
 - D) Change the activation function

Example of Perceptron Learning Algorithm

10. In a simple perceptron learning example, if the weights are initialized to zero, what will the perceptron output for any input?

- A) 0
- B) 1
- C) Randomly 0 or 1
- D) None of the above

11. When the perceptron output is 0 while it should be 1, the action taken is to:

- A) Decrease the weights
- B) Leave the weights unchanged
- C) Add the input vector to the weights
- D) Subtract the input vector from the weights

12. In an epoch of training, what happens to the dataset?

- A) It is completely ignored
- B) It is passed through the algorithm once
- C) It is passed through multiple times
- D) It is divided into test and training sets

13. What happens if the perceptron continues to misclassify instances during training?

- A) It will reach convergence
- B) The weights will not be updated
- C) The learning process will fail
- D) It will classify correctly eventually

14. What is meant by "batch vs online learning" in the context of perceptrons?

- A) Batch learning updates weights at once; online learning updates after each instance
- B) Both methods are identical
- C) Online learning is slower than batch learning
- D) Batch learning cannot be used with perceptrons

1.	B
2.	C
3.	C
4.	C
5.	B
6.	B
7.	D
8.	B
9.	A
10.	A
11.	C
12.	B
13.	C
14.	A

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