Assignment Zero

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

1. You try to sell a European vanilla, which of the following is a no-touch $(i.e.,)$ always certain irrespective of expiry value of variables?

- $X_{t} = \phi_{1}$
- $X_{t} \geq \phi_{2}$
- $X_{t} = \phi_{3}$
- $X_{t} \leq \phi_{4}$

No, the answer is incorrect.

2. Which of the following propositions is logically equivalent to $\forall x \in R \left( x \leq 0 \right)$?

- $x \leq 0$
- $x \geq 0$
- $x = 0$
- $x \neq 0$

No, the answer is incorrect.

3. You have twice as many red balls as blue balls. If the probability of drawing a matched pair (same color of balls in the same) so as the probability of allowing a mismatched pair (same color of balls in the same) changes, what do you have at least one red ball and both the drawings are without replacement?

No, the answer is incorrect.

4. There are ten balls containing some black and green balls. The first ball has 3 black and 7 green balls whereas the second ball has 2 black and 8 green balls. One ball is picked from the first box randomly and put on the second box. Now, a ball is picked from the second box. What is the probability of being a black ball?

No, the answer is incorrect.

5. There is a box with 8 white balls and 1 black ball. In each toss, we take out one ball. If it is black, we stop; if it is white, we throw the ball back in the box and repeat. What is the expected number of tosses and we stop?

No, the answer is incorrect.

6. The ReLU function is a commonly used function in machine learning. The function is defined as follows: $f = \max(0, x)$, which of the following are correct corner conditions, if the function were to be applied on each element of a n-dimen.

- $\text{relu}(a) = a \times X$
- $\text{relu}(a) = a \times (X > 0)$
- $\text{relu}(a) = a \times \text{relu}(\text{max}(0, X))$
- $\text{relu}(a) = a \times \text{relu}(\text{max}(0, X) > 0)$

No, the answer is incorrect.

7. What of the following data structures in the most efficient in implementing a pretty queue?

- An array
- A heap
- Linked list
- Binary Search Tree

No, the answer is incorrect.

8. Given a weighted directed connected graph $G$, do the following operation changes the optimal least-cost path from the source to the end vertices or not?

No, the answer is incorrect.

9. Adding a weight $\text{w}$ to each edge's weight?

No, the answer is incorrect.

10. Multiplying a weight $\text{w}$ with each edge's weight:

No, the answer is incorrect.

11. What are the appropriate data structures for implementing breadth-first search and depth-first search algorithms respectively?

- Stack, Queue
- Queue, Stack
- Stack, Heap
- Heap, Queue

No, the answer is incorrect.