

Optimization II Quiz

Due No due date	Points 2	Questions 2	Available after Apr 1 at 16:13
Time Limit None	Allowed Attempts Unlimited		

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Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 2

Submitted Jun 16 at 18:21

Unanswered

Question 1

0 / 1 pts

What is the gradient for a function formulated as $f(X1, X2) = 3 \cdot \log(X1) + \log(1-X2)$ at point $(X1=1, X2=2)$?

Correct Answer

☐ [3, 1]

☐ [0, 0]

☐ 2

☐ 4

Gradient in respect to X1: $3/X1$ at point $X1=1 \Rightarrow 3$

Gradient in respect to X2: $-1/(1-X2)$ at point $X2=2 \Rightarrow 1$

Vector of gradients is [3, 1]

Unanswered

Question 2

0 / 1 pts

Which statement is FALSE about Gradient Descent? You may have more than one answer.

☐ It is guaranteed to find a local optimum

Correct Answer

☐

It is useful when we cannot compute the derivative of the target function

☐ The learning rate influences the step size

Correct Answer

☐ It is guaranteed to find a global minimum

- we need to be able to compute the first derivative in order to apply GD
- GD is guaranteed to find a LOCAL optimum for non-convex functions (for convex functions the local optimum is equal to the global optimum)
- The learning rate indeed specifies how big a 'step' we take in the opposite direction of the gradient, for each update iteration