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Unit 7 - Week 5

Practice Assignment 5

The due date for submitting this assignment has passed. Due on 2020-03-04, 23:59 IST.
As per our records you have not submitted this assignment.

Note : This assignment is only for practice purpose and it will not be counted towards the Final score

1) For a function $f(x, y) = 2x^2 - xy + y^2 - 3x - y$, the stationary point (x, y) is *1 point*
(Hint: Stationary point is a solution to the first order necessary conditions for maxima or minima of $f(x, y)$)

- (0,1)
- (-1,0)
- (1,0)
- (1,1)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(1,1)

2) The Hessian matrix of $f(x, y) = 2x^2 - xy + y^2 - 3x - y$ is *1 point*

- $\begin{bmatrix} -4 & 1 \\ 1 & -2 \end{bmatrix}$
- $\begin{bmatrix} 1 & -4 \\ -2 & 1 \end{bmatrix}$
-

$$\begin{bmatrix} 4 & -1 \\ -1 & 2 \end{bmatrix}$$

No, the answer is incorrect.
Score: 0

Accepted Answers:

$$\begin{bmatrix} 4 & -1 \\ -1 & 2 \end{bmatrix}$$

3) The Eigenvalues of Hessian matrix of $f(x, y) = 2x^2 - xy + y^2 - 3x - y$ is **1 point**

- -1.585786, -4.414214
- 3.828427, -1.828427
- 4.414214, 1.585786
- -3.828427, 1.828427

No, the answer is incorrect.
Score: 0

Accepted Answers:
4.414214, 1.585786

4) The Hessian matrix of $f(x, y) = 2x^2 - xy + y^2 - 3x - y$ is **1 point**

- positive definite
- positive semidefinite
- negative definite
- negative semidefinite

No, the answer is incorrect.
Score: 0

Accepted Answers:
positive definite

5) The function $f(x, y) = 2x^2 - 2y^2$ **1 point**

- has no stationary point
- has a stationary point at (1,1)
- has a stationary point at (1,-1)
- has a stationary point at (0,0)

No, the answer is incorrect.
Score: 0

Accepted Answers:
has a stationary point at (0,0)