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 \( (0, 1) \) **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**

\[
\begin{bmatrix}
-4 & 1 \\
1 & -2
\end{bmatrix}
\]

- 

As per our records you have not submitted this assignment.
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

-1.585786, -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

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

No, the answer is incorrect.
Score: 0
Accepted Answers:
positive definite

5) The function \( f(x, y) = 2x^2 - 2y^2 \)

- 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)