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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Data Science for Engineers (course)**

 Announcements (announcements) **About the Course** (https://swayam.gov.in/nd1_noc20_cs28/preview)

Ask a Question (forum) Progress (student/home) Mentor (student/mentor)

Unit 6 - Week 4

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

☐ Optimization for Data Science (unit? unit=30&lesson=31)

☐ Unconstrained Multivariate Optimization (unit? unit=30&lesson=32)

☐ Unconstrained Multivariate Optimization (Continued) (unit? unit=30&lesson=33)

Practice Assignment 4

The due date for submitting this assignment has passed. **Due on 2020-02-26, 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) Class of optimization problems **WITH NO** constraints are known as **1 point**

- ☐ constrained optimization problems
☐ unconstrained optimization problems
☐ linear constrained optimization problems
☐ none of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

unconstrained optimization problems

2) The optimum for a function $f(x)$ at x^* , exists if: **1 point**

- ☐ If the first derivative at x^* is zero
☐ If the first derivative at x^* is positive
☐ If the first derivative at x^* is negative
☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

If the first derivative at x^ is zero*

☒ Gradient (Steepest) Descent (OR) Learning Rule (unit? unit=30&lesson=34)

☐ FAQ (unit? unit=30&lesson=35)

☐ **Quiz : Practice Assignment 4 (assessment? name=93)**

☐ Quiz : Assignment 4 (assessment? name=113)

☐ Week 4 Feedback (unit? unit=30&lesson=117)

☒ Solution - Assignment 4 (unit? unit=30&lesson=122)

Week 5

Week 6

Week 7

Week 8

Text Transcripts

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3) When the feasibility regions defined by equality constraints and inequality constraints are compared,

1 point

- ☐ The regions defined by both are exactly the same
- ☐ The region defined by the inequality constraint is greater
- ☐ The region defined by the equality constraint is greater
- ☐ none of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

The region defined by the inequality constraint is greater

4) If $f(x) = 12x^4 - 2x^3 + 9x^2 + 5$, then the first order necessary condition for either maxima or minima of $f(x)$ is

1 point

- ☐ $24x^2 + 4x - 6 = 0$
- ☐ $48x^3 - 6x^2 + 18x = 0$
- ☐ $36x^3 - 2x^2 - 6x = 0$
- ☐ $48x^2 - 4x - 6 = 0$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$48x^3 - 6x^2 + 18x = 0$

5) The restrictions on the possible values of the solution to the optimization problem are called: **1 point**

- ☐ objective functions
- ☐ cost functions
- ☐ equality/inequality constraints
- ☐ none

No, the answer is incorrect.

Score: 0

Accepted Answers:

equality/inequality constraints

