5.2.2 Exam: One-dimensional gradient descent question

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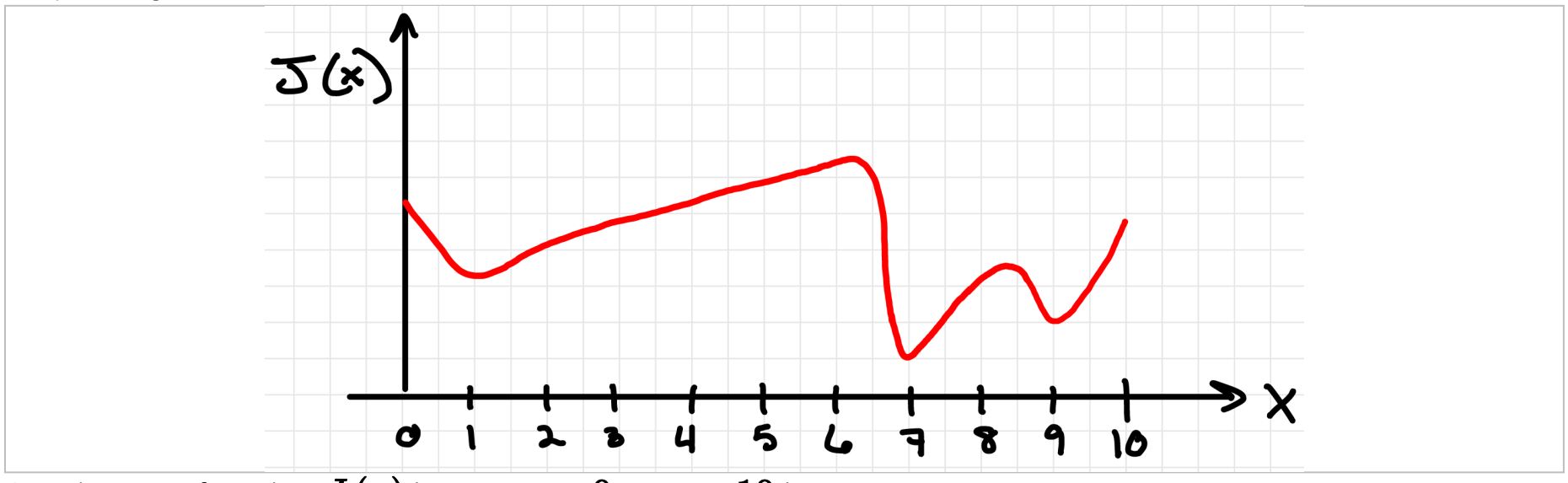
Exams due Sep 27, 2023 05:00 IST Completed

Problem: Where will gradient descent converge?

3/3 points (graded)



Consider the function $J\left(x\right)$ in the range $0 < x < 10$ in the plot above.

In the following questions, assume that a small step size is used such that the gradient descent algorithm is stable and converges without oscillation to some x.

Suppose that the initial condition for the gradient descent is $x^0 = 2$, what is the x location that the gradient descent converges to? Give your answer to a single digit of precision (i.e. enter an integer value).

1 ✔ Answer: 1

Suppose that the initial condition for the gradient descent is $x^0 = 6$, what is the x location that the gradient descent converges to? Give your answer to a single digit of precision (i.e. enter an integer value).

1 ✔ Answer: 1

Suppose that the initial condition for the gradient descent is $x^0 = 8$, what is the x location that the gradient descent converges to? Give your answer to a single digit of precision (i.e. enter an integer value).

7 ✔ Answer: 7

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Answers are displayed within the problem

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