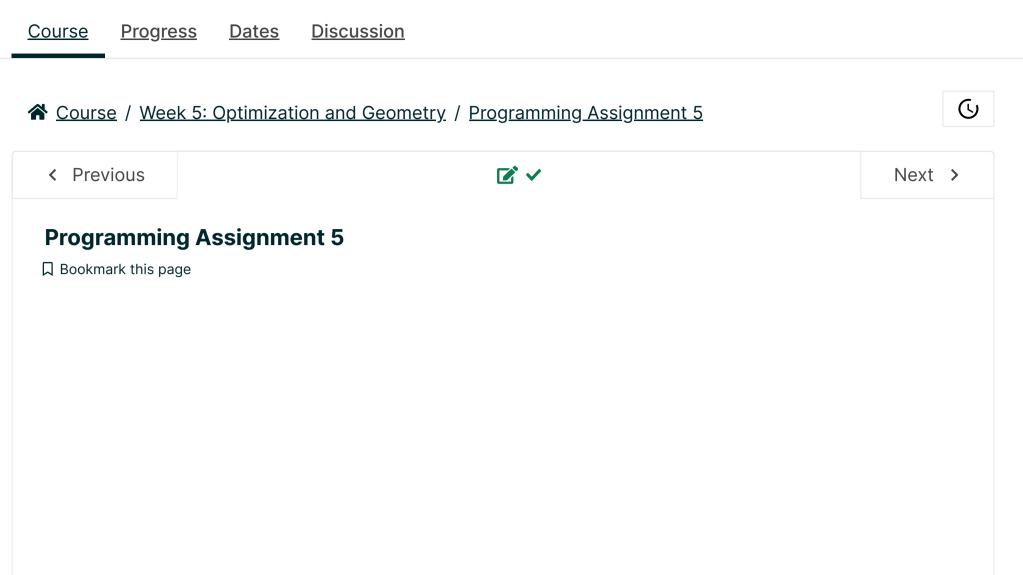


<u>Help</u>

konainniaz 🗸



Programming Assignments due Jul 26, 2022 23:00 PKT Completed

Click this link to download the Ridge Regression notebook and then complete problems 1-3.

If you are completely stuck on this notebook, you can consult these hints.

1/1 point (graded)

In setting the step size, does it make sense in practice to pick a fixed schedule like 1/t (where $t=1,2,3,\ldots$ is the iteration)? Select all that apply.

Yes, that should work well in general.					
Not really: it is important to adapt to the scale of the loss function and/or gradient; otherwise, the steps might be much too big or much too small.					
Not really: there is no need to reduce the step size with time.					
$oxedsymbol{oxed}$ Yes: in fact any schedule that decreases with $oldsymbol{t}$ will work well.					
Submit					
Problem 2					
1/1 point (graded) Is it possible to design the gradient descent scheme so that the loss values are monotonically decreasing with successive iterations?					
Yes: in fact, this is guaranteed to happen in any case.					
O No: we cannot hope for this if we want guaranteed convergence.					
Yes: this can be ensured by choosing a step size adaptively.					
O No: in general it is not possible to avoid having the loss function go up and down.					

Problem 3

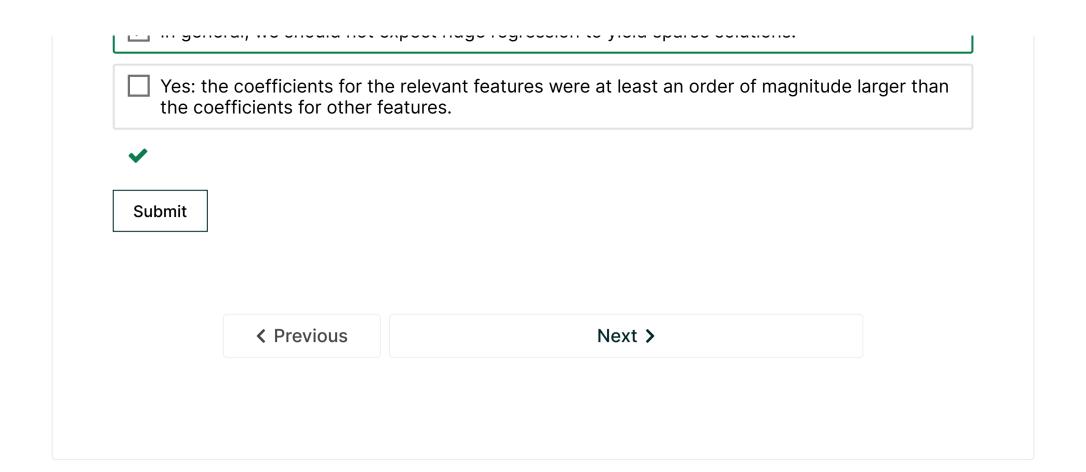
Submit

1/1 point (graded)

In the notebook, the data was generated using a sparse regression function w, in which only 10 of the 100 features were set. Did your solver do a good job of identifying the relevant features? Select all that apply.

igspace Yes, in the sense that the ${f 10}$ highest-valued coordinates were the relevant features.

In general, we should not expect ridge regression to yield sparse solutions.



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