

# CSDS 440: Assignment 6

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## Problem 23

(i, ii, iii)

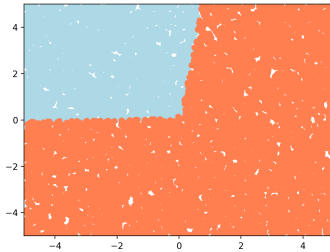


Figure 1:  $w \in [-10, 10]$

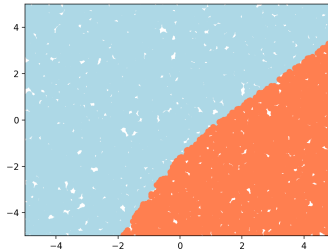


Figure 2:  $w \in [-3, 3]$

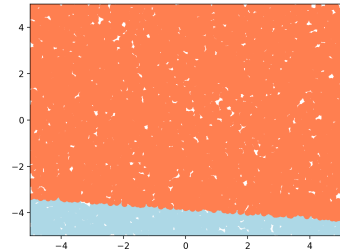


Figure 3:  $w \in [-0.1, 0.1]$

By observation we may tell with the weights  $w$  decaying, the output graph becomes more “linear” which is better against overfitting. For color reference, we have **Output = 1** and **Output = 0**.