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Quiz 3

1. True

2. False

3. True

4. Masking in classification refers to the condition that can arise when a class is suppressed by 2 or more other classes, meaning that there is no region in the feature space that is labelled as this class. Like the Figure 4.2 from the textbook in the slides, in X1, the middle class is being masked by the left bottom and the right top classes. The cause of this is the rigidity of the linear regression model.

5. Regression is mathematical, and the categories A, B, C and D are not mathematically separated from each other in the way the numerical values 1, 2, 3 and 4 are. For instance, the categories could represent different types of cuisines, for example A – Italian, B – Chinese, C – Mexican, D – French. A numerical representation of these as 1, 2, 3 and 4 would fail to capture both the meaning and the difference between the cuisines since 1 and 3 would be numerically farther apart from 1 and 2, even though cuisines cannot really be compared in that manner. Due to the nature of regression, converting to numeric would mean it would mathematically interpret 1 and 3 as farther apart than 1 and 2, which is not the case, and therefore framing the problem as a regression in this manner would be problematic.