

QUIZ 3

1. **(2 points)** For the supervised task, only the sample's features are provided.

(a) True

(b) False

2. **(2 points)** For the regression task, the ground truth is a discrete value.

(a) True

(b) False

3. **(2 points)** When training the linear regression model, we need to split the dataset into the training set and testing set. The testing set is used during both the training and testing phase.

(a) True

(b) False

4. **(2 points)** Write down the objective function of the linear regression model: $\min_w \|Y - X_w\|_2$

5. **(2 points)** How to avoid overfitting?

Add a regularization term: make some w_i to be small or approaching to 0

$$\min_w \frac{1}{n} \|Y - X_w\|_2^2 + \lambda \|w\|_2^2$$