Congratulations! You passed!

Grade received 100% **Latest Submission Grade** 100% **To pass** 80% or higher

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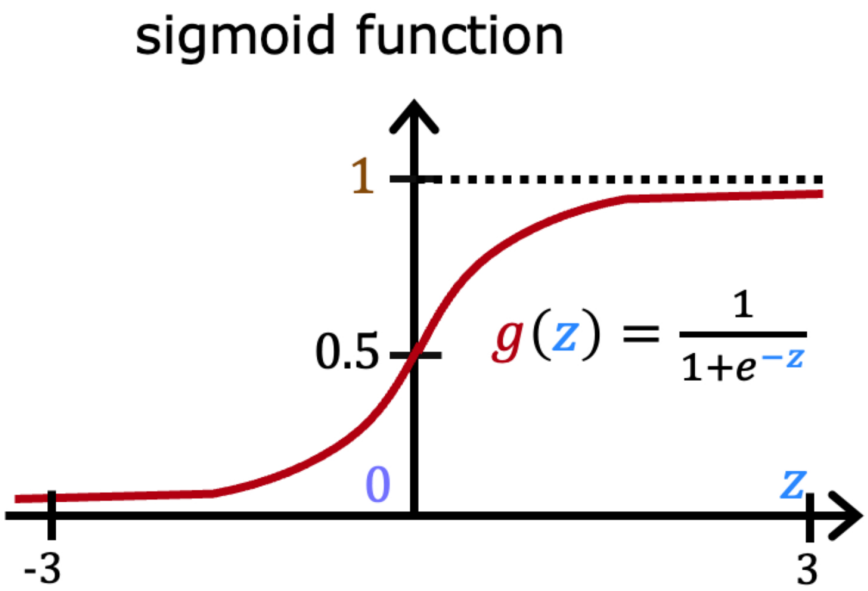
1. Which is an example of a classification task? **1 / 1 point**

- Based on a patient's age and blood pressure, determine how much blood pressure medication (measured in milligrams) the patient should be prescribed.
- Based on a patient's blood pressure, determine how much blood pressure medication (a dosage measured in milligrams) the patient should be prescribed.
- (selected) Based on the size of each tumor, determine if each tumor is malignant (cancerous) or not.

Correct
This task predicts one of two classes, malignant or not malignant.

2. Recall the sigmoid function is $g(z) = \frac{1}{1+e^{-z}}$ **1 / 1 point**

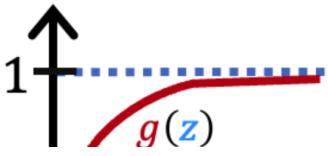


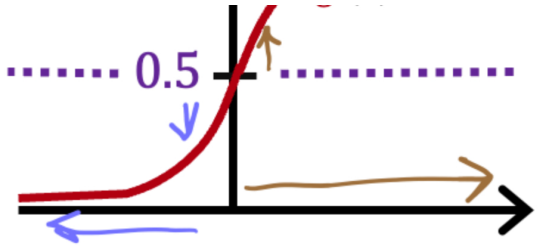
If z is a large positive number, then:

- $g(z)$ will be near zero (0)
- $g(z)$ will be near 0.5
- $g(z)$ is near negative one (-1)
- (selected) $g(z)$ is near one (1)

Correct
Say z = $+100$. So e^{-z} is then e^{-100}, a really small positive number. So, $g(z) = \frac{1}{1+\text{a small positive number}}$ which is close to 1

3. **1 / 1 point**





A cat photo classification model predicts 1 if it's a cat, and 0 if it's not a cat. For a particular photograph, the logistic regression model outputs $g(z)$ (a number between 0 and 1). Which of these would be a reasonable criteria to decide whether to predict if it's a cat?

- ○ Predict it is a cat if g(z) = 0.5
- ○ Predict it is a cat if g(z) < 0.5
- ◉ Predict it is a cat if g(z) >= 0.5
- ○ Predict it is a cat if g(z) < 0.7

Correct
Think of g(z) as the probability that the photo is of a cat. When this number is at or above the threshold of 0.5, predict that it is a cat.

4. **1 / 1 point**

True/False? No matter what features you use (including if you use polynomial features), the decision boundary learned by logistic regression will be a linear decision boundary.

- ○ True
- ◉ False

Correct
The decision boundary can also be non-linear, as described in the lectures.