Classification with logistic regression

- Due No due date
- Points 30
- Questions 3
- Time Limit None
- Allowed Attempts Unlimited

Instructions

You can have multiple attempt on this quiz to improve your score. Only the highest score will be recorded.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 3	less than 1 minute	30 out of 30
LATEST	Attempt 3	less than 1 minute	30 out of 30
	Attempt 2	less than 1 minute	30 out of 30
	Attempt 1	3 minutes	30 out of 30

Score for this attempt: 30 out of 30
Submitted Nov 2 at 6:38pm
This attempt took less than 1 minute.

Question 1
10 / 10 pts

Which is an example of a classification task?

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.

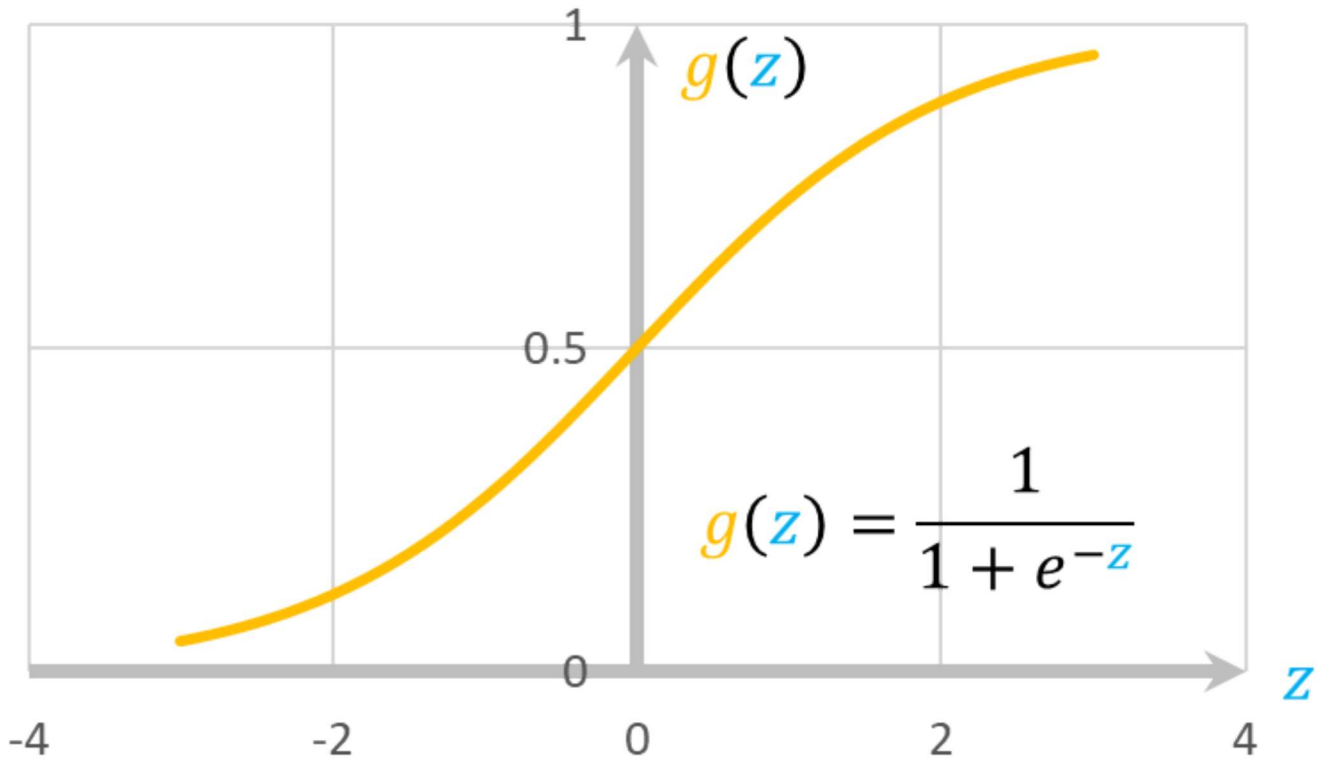
Correct!

Based on the size of each tumor, determine if each tumor is malignant (cancerous) or not.

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

Question 2
10 / 10 pts

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



If z is a large positive number, then:

- $g(z)$ is near negative one (-1)

Correct!

- $g(z)$ is near one (1)

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

- $g(z)$ is near zero (0)
- $g(z)$ will be near 0.5

Question 3

10 / 10 pts

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 $g(z) > 0.7$

Correct!

- $g(z) >= 0.5$

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.

Quiz Score: 30 out of 30