

Logistic Regression

Example

1. Given a logistic equation $F(t) = \frac{1}{1 + Ce^{-kt}}$, what line do you get after logistic regression?

Problems

2. True False We can only use logistic regression if the data values have y values that lie between 0 and 1 exclusive.
3. True False We commonly use logistic regression to model probability of success/failure.

Z-Scores

Example

4. Let $f(x) = \frac{1}{2\sqrt{2\pi}}e^{-(x-5)^2/8}$ be a PDF. Calculate the probability $P(3 \leq X \leq 7)$.

Problems

5. True False We can only use the z score to calculate probabilities of normal distributions (bell curves).
6. True False The normal distribution with positive mean can only take on positive values. ($P(X \leq 0) = 0$)
7. Let f be normally distributed with mean 1 and standard deviation 4. Calculate the probability $P(X \geq 3)$.
8. Let f be normally distributed with mean -2 and standard deviation 4. Calculate the probability $P(-1 \leq X \leq 1)$.
9. Let f be normally distributed with mean -2 and standard deviation 4. Calculate the probability $P(-3 \leq X \leq 1)$.
10. Let f be normally distributed with mean 5 and standard deviation 2. Calculate the probability $P(X \leq 3)$.

11. Let f be normally distributed with mean 3 and standard deviation 5. Calculate the probability $P(X \geq 0)$.
12. Let f be normally distributed with mean 2 and standard deviation 1. Calculate the probability $P(X \leq 0)$.
13. Let f be normally distributed with mean 0 and standard deviation 5. Calculate the probability $P(-2 \leq X \leq -1)$.