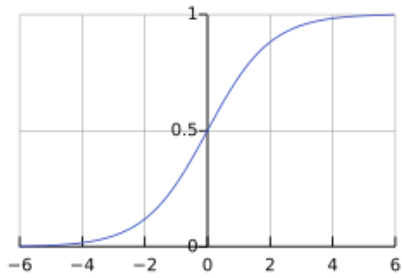


Sigmoid Function

Sigmoid Function is a mathematical function that have "S" shaped curve

$$S(x) = \frac{1}{1 + e^{-x}} = \frac{e^x}{e^x + 1}$$

- It Convert the X into values that falls in the interval between 1 and 0



- Used in the [Logistic Regression](#) which models the **Probability** that a binary outcome variable equals 1 given set of predictors
- $S(0) = 0.5$ That's where the function transitions fastest
- Its Great for modeling **non-linear boundaries**