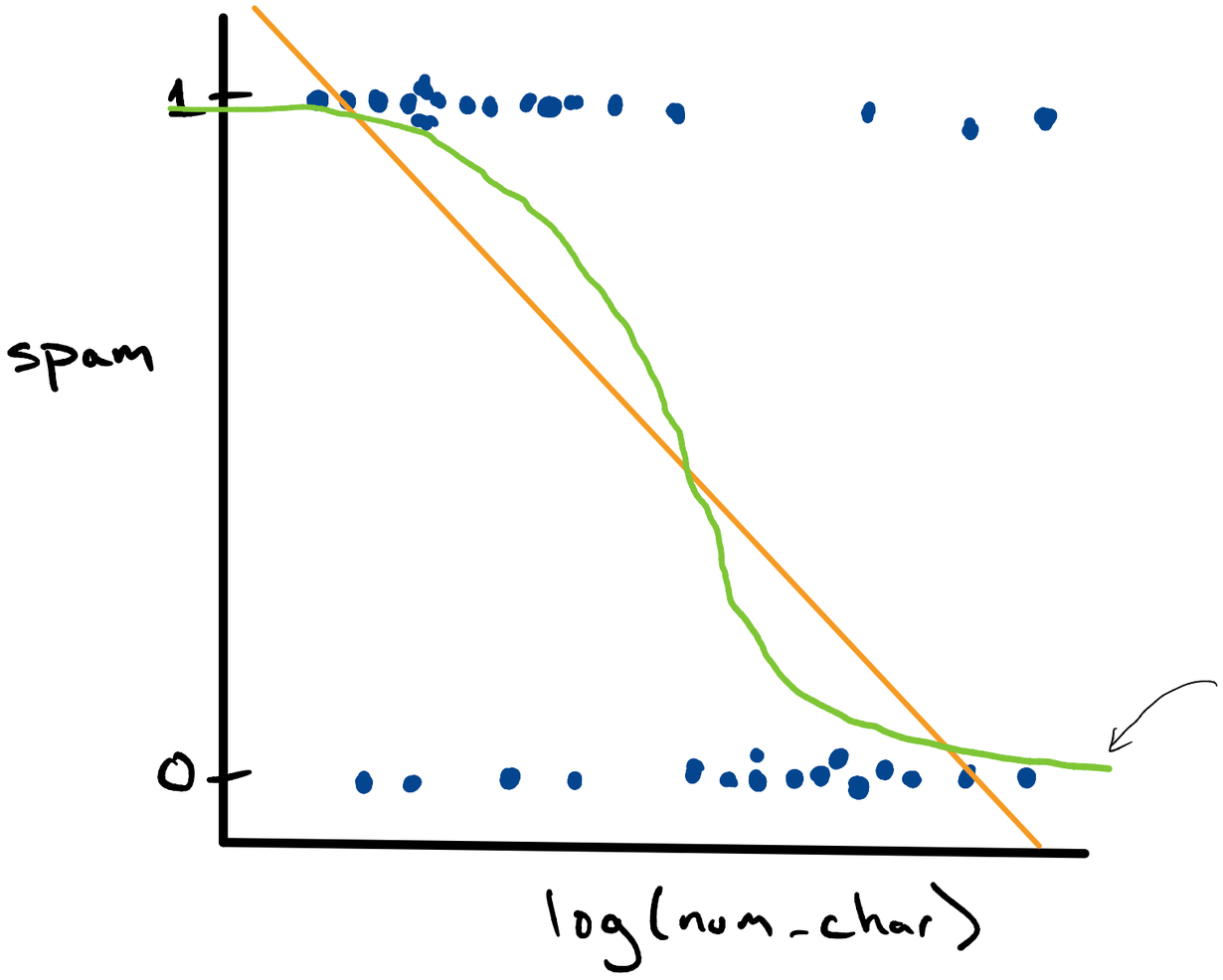
the "log odds" ~~probability~~ that y is 1

IDEA #3: predict ~~y~~ with multiple linear regression.

log odds of $\hat{p}$: $\log_e\left(\frac{\hat{p}}{1-\hat{p}}\right)$ ← a.k.a "logit" function



$$\log_e\left(\frac{\hat{p}}{1-\hat{p}}\right) = b_0 + b_1 x$$

solve for $\hat{p}$...

$$\hat{p} = \frac{1}{1+e^{-(b_0+b_1 x)}}$$

→ $\hat{p}$ is now a sigmoid (s-shaped) function of x bound between 0 and 1

GOOD IDEA!