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Logistic Regression Hw

1. Group the Data by heart rate like so:

Heart rate	# yes	Total	Prob. (# yes/total)	Odds (#yes/#No)	Logit ln(odds)
50	1	4	.25	.33	-1.11
70	1	2	.5	1	0
90	4	5	.8	4	1.39

2. Next, find a logit regression equation with the inputs being heart rate and the targets being logit.

For example we may find $y = .11x - 3.8$ as our equation where x is heart rate and y is logit, after using the delta rule on our data.

3. When given a new input heart rate of 60, you would find the logit value using the equation from step 2 where $x = 60$.

$y = .11(60) - 3.8$

$y = 2.8$

Now to transform that logit into a probability, use: $p = e^{2.8}/(1 + e^{2.8})$

$P = 0.94$