Categorial Data Analysis
Assignment #3

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1. Consider the below 3-way contingency table.

		Response(Y)	
Clinic(Z)	Treatment(X)	Success	Fail
1	A	20	30
	B	30	10
2	A	50	20
	B	20	5

Answer the following questions

(a) Compute the partial odds ratios for Clinic 1 ($\theta_{XY(1)}$) and for Clinic 2 ($\theta_{XY(2)}$).

(b) Construct the marginal table by merging clinic information. Then compute the marginal odds ratio θ_{XY}.

(c) From (a) and (b), can you observe the Simpson's paradox? Explain it.

(d) Suppose the association seems stable across clinic 1 and 2. Compute the Mantel-Haenszel estimator and logit estimator for the common odds ratio.