

CSC 384 - Assignment 4

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Question 3:

$$\text{Sufficiency} = P(A|C, Y) = P(A|C)$$

$$\text{Separation} = P(A|Y, C) = P(A|Y)$$

Example 1: Sufficiency holds but not separation

A	C	Y	$P(A, C, Y)$
True	True	True	0.571
True	True	False	0.571
True	False	True	0.494
True	False	False	0.494
False	True	True	0.429
False	True	False	0.429
False	False	True	0.506
False	False	False	0.506

Example 2: Separation holds but not sufficiency

A	C	Y	$P(A, c, Y)$
True	True	True	0.25
True	True	False	0.65
True	False	True	0.25
True	False	False	0.65
False	True	True	0.75
False	True	False	0.35
False	False	True	0.75
False	False	False	0.35