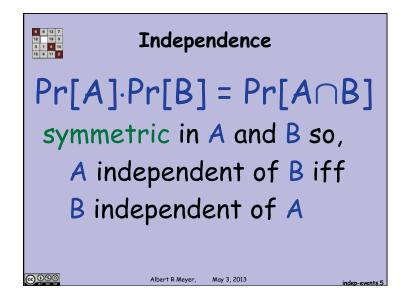
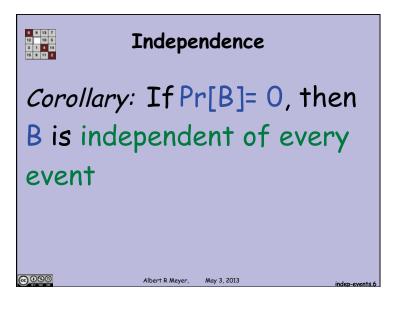


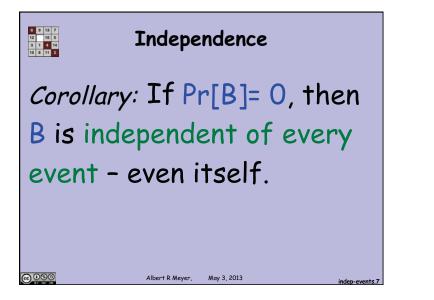
Definitions of Independence  
proof of equivalence:  

$$Pr[A] = Pr[A | B]$$
 iff  
 $Pr[A] = \frac{Pr[A \cap B]}{Pr[B]}$  iff  
 $Pr[A] \cdot Pr[B] = Pr[A \cap B]$ 

Definitions of Independence need Pr[B] ≠ 0 for Def. 1. Def. 2 always works: Pr[A}·Pr[B] = Pr[A∩B]











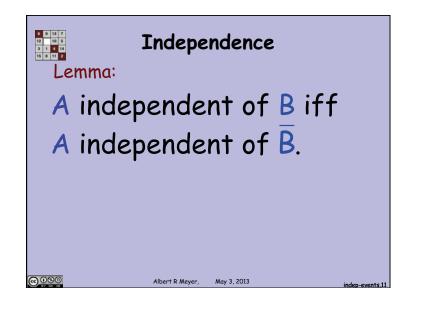
@ 080

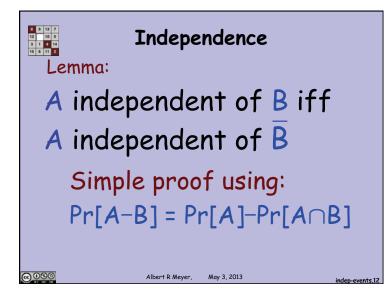
## Independence

A independent of B means A is independent of whether or not B occurs:

May 3, 2013

Albert R Meyer,





6.042J / 18.062J Mathematics for Computer Science Spring 2015

For information about citing these materials or our Terms of Use, visit: http://ocw.mit.edu/terms.