Probability Cheatsheet v2.0

Based on the template from
`http://github.com/wzchen/probability_cheatsheet`.

Last Updated April 11, 2017

Image Objects

- nifti (oro.nifti) - 3D array with header information, data in memory
- antsImage (ANTsR) - C++ pointer, not in memory
- niftiImage (RNifti) - C++ pointer, not in memory

Image Manipulation

nifti objects

Comparison Operators	¿, ¿=, ¡, ¡=, ==, !=	Logical image
Arithmetic	+, -, *, /	Numeric image
In operator	%in%	Logical vector

Image Conversion

How to convert **to** nifti objects from:

Type	function	Description
antsImage	extrantsr::ants2oro	Writes out image, reads in as a nifti
antsImage	extrantsr::ants2oro(aimg, reference = img)	Uses the img nifti object as header, faster
niftiImage	oro.nifti::nii2oro(aimg)	Extracts aimg array, then copies header to nifti object

De Morgan's Laws A useful identity that can make calculating probabilities of unions easier by relating them to intersections, and vice versa. Analogous results hold with more than two sets.

$$(A \cup B)^c = A^c \cap B^c$$
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Recommended Resources

- Introduction to Probability Book (`http://bit.ly/introprobability`)
- Stat 110 Online (`http://stat110.net`)
- Stat 110 Quora Blog (`https://stat110.quora.com/`)
- Quora Probability FAQ (`http://bit.ly/probabilityfaq`)
- R Studio (`https://www.rstudio.com`)
- LaTeX File (`github.com/wzchen/probability_cheatsheet`)

Please share this cheatsheet with friends!
`http://wzchen.com/probability-cheatsheet`