

# Object Oriented Programming with C++

## Module #6: Probability

Define a class that implements the Probability of independent events. Where the likelihood of an event ranges from 0.0 (never) to 1.0 (certain).

Implement the following operators for probabilities, where

$A \& B$  is the probability of both A and B occurring,  
 $A | B$  is the probability of either A or B occurring,  
 $A \wedge B$  is the probability of either A or B but not both occurring,  
 $A - B$  is the probability of A but not B occurring,  $\sim A$  is  
the probability of A not occurring.

Support assignment and construction from a `double` (with defined behavior if the value is not valid).

Suggestion: Binary operators are usually defined as non-member functions. For details, read *Rule #27. Prefer the canonical forms of arithmetic and assignment operators* in C++ Coding Standards 101 Rules which can be found in the course information.

Don't forget that you must submit Design, Source Code and Test Results.  
Submit in a single PDF file.