

last updated 2011 November 9

Errata  
in the book  
*The Language of Mathematics: Utilizing Math in Practice*  
by  
Robert Laurence Baber  
published by  
John Wiley & Co., Inc., Hoboken, New Jersey  
September 2011

**Note:** Wherever “the book”, “this book”, etc. appears  
in the errata below,  
“book” refers to and means the book  
*The Language of Mathematics: Utilizing Math in Practice.*

## Part 1: Logically and Semantically Significant Corrections

1. In the next to last paragraph in Section 3.4.8 near the top of page 72:

The expression should be  
 $\text{true} \wedge x = x$      $(\text{true} \wedge x) = x$   
 $\text{false} \vee x = x$      $(\text{false} \vee x) = x$

2. In section 5.1, Tables 5.1-1 and 5.1-2 on page 137 should be:

**TABLE 5.1-1 Identities for Sums and Products**

Sum	Product	Comments
$x+y = y+x$	$x*y = y*x$	+ and * are commutative
$(x+y)+z = x+(y+z)$	$(x*y)*z = x*(y*z)$	+ and * are associative
—	$x*(y+z) = (x*y)+(x*z)$	+ does <b>not</b> distribute over * * distributes over +

**TABLE 5.1-2 Identities for the Logical Or and the Logical And**

Logical Or	Logical And	Comments
$(x \vee y) = (y \vee x)$	$(x \wedge y) = (y \wedge x)$	$\vee$ and $\wedge$ are commutative
$((x \vee y) \vee z) = (x \vee (y \vee z))$	$((x \wedge y) \wedge z) = (x \wedge (y \wedge z))$	$\vee$ and $\wedge$ are associative
$(x \vee (y \wedge z)) = ((x \vee y) \wedge (x \vee z))$	$(x \wedge (y \vee z)) = ((x \wedge y) \vee (x \wedge z))$	each distributes over the other

3. In section 5.2.3 near the bottom of page 144:

The expression should be  
 $\neg(A \wedge B) = (\neg A \vee \neg B)$      $(\neg(A \wedge B)) = (\neg A \vee \neg B)$   
 $\neg(A \vee B) = (\neg A \wedge \neg B)$      $(\neg(A \vee B)) = (\neg A \wedge \neg B)$

in order to be consistent with the binding orders as defined in Table 3.4.2-1 on page 45. If the binding order of the unary function negation ( $\neg$ ) were defined to be higher in the table, e.g. together with the arithmetic unary functions (+, - as signs of a number) in binding order 2, the extra parentheses in the column “should be” above would be unnecessary (but still correct).

The original expressions in the left column above are not incorrect, but they do not express directly the intended meanings, which the expressions in the right column above do express. However, the two expressions in each line are equal to each other because they are a special case of the more general identity

$$[\neg(X = Y)] = [(\neg X) = Y]$$

the truth of which can be easily shown by constructing a truth table for all Boolean values of X and Y.

4. Throughout Section 8.3 on pages 256-264, the names of the Boolean array variables `GameBoardInitialized` and `PlayerInitialized` have been abbreviated by omitting the verb. The names `GameBoardIsInitialized` and `PlayerIsInitialized` respectively would be better, thereby clearly indicating that these array variables have Boolean values.

## **Part 2: Minor and Insignificant Corrections**

M1. In Section 1.2 in the second from last line on page 5, the period following “Section 1.1” should be deleted.

M2. In Appendix F on page 394 in the third line from the bottom, the word “is” should be “are”.