Errata for CT2, Steve Awodev, 4/2011

Chapter 1:

p. 8, I. -8: remove extra vertical space following the displayed "It's the arrows ...".
 p. 21, I. 10: remove the stray apostrophe after "We".

### Chapter 3

- p. 58, I. -2: change "A + B \rightarrow C" to " \varphi\vee\psi\rightarrow\vartheta " p. 62, I. 12: change "diagram" to "following diagram." (with full stop) p. 66, I. -10: insert "an" to read "dual to that of an equalizer, ..."

- p. 80, I. 8: insert "on one object" to read: ... this example is in fact the "free monoidal category on one object."
- p. 88, last line: Insert a further exercise:
   9. Verify that the category \$\mathbf{Ord}\_\mathrm{fin}\$ is indeed the free monoidal category on one object.

### Chapter 5:

- p. 91, I. 2: in the displayed diagram, remove the prime sign ' from the M on the right and add a prime sign to the M on the left. p. 91, I. 4: in the displayed formula, remove the prime sign ' from the M. p. 91, I. 5: delete the words "with f".

- p. 92, bottom most diagram: something is wrong with the label on the middle diagonal arrow. It should be " \langle z\_1, z\_2 \rangle ". p. 97, I. 6: in the displayed formula, change "X" to "\alpha" all 3 times, while preserving the subscript position throughout,

- and the prime sign on the second occurrence. p. 99, I. 9: following \$x\$ insert "over \$A\$" to read: "... term \$f\$ for the variable \$x\$ over \$A\$ in a propositional function ..." p. 11, I. -6: following "that is," insert "\$V\_1(A) = A + \mathcal{P}(A)\$ is" to read " that is, \$V\_1(A) = A + \mathcal{P}(A)\$ is the set of all ... " p. 116, I. I. Begin the sentence with "Use the foregoing to show that for ...", then replace "show \$M\subseteq N\$" with "\$M=N\$" and in the following display replace "implies" by "iff".

Chapter 6

- p. 130, I. 15: In Definition 6.10, move the entire second sentence "For posets, ... equivalent (exercise!)." to the end of the paragraph,
- and in that same sentence replace the word "posets" by "lattices". p. 133, I. 6: in the final line of the displayed sequence of formulas, replace " \wedge " by " \Rightarrow "

# p. 136, I. 7: change "functions" to "arrows". p. 138, I. 11: delete both sets of square brackets (around a and b) on the left-hand side of "implies"

- p. 138, I. 11: delete both sets of square brackets (around a and b) on the left-hand side of "implies".
  p. 143, I. 19: in the displayed formula, change \uparrow to \downarrow.
  p. 143, I. 20: change "lower" to "upper" and "below" to "above", to read "be the upper set above \$i\$, regarded ..."
  p. 143, I. 22: in the displayed diagram, change \uparrow to \downarrow.
  p. 143, I. -9: change "\leq i" to " j leq i".
  p. 143, I. -9: in the displayed formula, change \uparrow to \downarrow.
  p. 143, I. -8: in the displayed formula, change \uparrow to \downarrow.
  p. 143, I. -6: in the displayed formula, change \uparrow to \downarrow.

- Chapter 7:
- p. 152, bottom, displayed diagram: 2 occurrences of " P " should instead be " \mathcal{P} ".

- p. 152, bottom, displayed diagram: 2 occurrences of " P " should instead be " \mathcal{P}".
  p. 153, I. -14: replace \subset by \subset and add a prime sign ' to the \$B\$ to read: h^{-1}(U)\subset ag B'
  p. 153, I. -13: delete the prime sign ' from the first \$B\$, and add one to the second "B" (and leave \subset as is here) to read: \$Usubset B\$ is an ultrafilter in \$B'\$
  p. 153, I. -12: delete the prime sign ' from the \$B\$.
  p. 160, bottom, displayed diagram: " P " should instead be " \mathcal{P} ".
  p. 161, top, displayed diagram: 3 occurrences of " P " should instead be " \mathcal{P} ".
  p. 163, the lower left hand comer, add another prime sign ' to the first occurrence of " A " to make " E(A'. B)".

- p. 167, top, diagram: in the lower left-hand corner, add another prime sign ' to the first occurrence of " A " to make " F(A', B) " into " F(A", B) ". p. 166, i. 9: change "\Delta(x)" to "\Delta(C)(x)".
  p. 167, i. 3: change "Q \rightarrow P" to "P \rightarrow Q".

- p. 179, I. 6: in the displayed formula, replace \$\[ b < a \Rightarrow b = 0 \]\$ by \$\[ b < a \text{implies} b = 0 \]\$, p. 182, I. -10: in the displayed formula, replace "P" by "\mathcal{P}" (2 times).
- p. 182, I. -8: replace "P" by "\mathcal{P}" (2 times). p. 182, I. -7: replace "P" by "\mathcal{P}" (1 time).

Chapter 8: p. 198, I. 7: in the middle term of the 3-fold equation, (x, c) should be a subscript. So replace "\vartheta(x, c) " by "\vartheta\_(x, c) ".

Chapter 9

# p. 200, 1. 17: in definition 9.1, first display, "U" should be the same typeface as "F", and not bold-face (it should be the same as in the next display). p. 210, I. 7: replace "counit" by "unit".

- p. 212, I. -9: in the second square diagram on this page, replace " U(g)\_\* " by " (Ug)\_\* "

- p. 212, I.-9: in the second square diagram on this page, replace "U(g)\_" by "U(g)\_"".
  p. 212, I.-7: in the first term of the displayed equations, replace "U(g)\_" by "(Ug)\_".
  p. 212, I.-7: in the first term of the displayed equations, replace "U(g)\_" by "(Ug)\_".
  p. 212, I.-7: in the first term of the displayed equations, replace "U(g)\_" by "(Ug)\_".
  p. 212, I.-7: the subscripts on \phi should be C, D' rather than C', D.
  p. 212, I.-5: the subscripts on \phi should be C, D' rather than C', D.
  p. 212, I.-5: the subscripts on \phi should be C, D' rather than C', D.
  p. 213, I. 3: in the displayed diagram, replace "F(C)" by "FC".
  p. 215, I. -14: in Definition 9.6, first display, "U" should be the same typeface as "F", and not bold-face (it should be the same as in the next display).
  p. 222, I.-13: replace the italicized word " exists" by the symbol Svexists\$
  (presumably the italics are produced by \$exists\$, so one need only add the missing command slash " \ ".
  Thus if \$\$ are already present, do not add another pair).
  p. 233, I.7: in the displayed equation, in the last term (the summand), replace is by it o give "A i".

- p. 233, I. 7: in the displayed equation, in the last term (the summand), replace i by j to give " A\_j ". p. 233, I. 9: in the first displayed equation, in the last term (the summand), replace i by j to give " A\_j
- p. 233, I. 10: in the second displayed equation, in the last term (the summand), replace i by j to give "A\_j ".
- also, in the index to the sum exchange i and j to give "\sum.{j \in \alpha\{-1}(i) }". p. 233, I. 11: in the third displayed equation, in the index to the sum exchange i and j to give "\sum\_{j \in \alpha\{-1}(i) }".
- p. 233, 1. 12: in the fourth displayed equation, replace j by i.
   p. 235, 1. -5: in the first sentence, replace the last occurrence of "F" by \mathcal{F}, to read: "Thus, we want to construct ... \mathcal{F}\$."
   p. 242, 1. 2: after "using the fact that" insert "\$\mathcal{S}\mathcal{F}\$ has and " to read "using the fact that \$\mathcal{F}\$ has and \$\mathcal{S}\$ preserves these."

- p. 249, I. 2: replace two mathcal{P} by Imathbf(P).
  p. 250, I. 3: in the display, replace two occurrences of Imathcal{P} by Imathbf(P).

- p. 250, I. 3: in the display, replace two occurrences of 'mathcal{P} by \mathcal{P}.
  p. 250, I. 10: in the displayed diagram, top left corner, replace superscript I by J to read " \Sets^J "
  p. 250, I. -10: replace "P " by " \mathcal{P}".
  p. 250, I. -7: in the displayed diagram, replace 2 occurrences of "P " by " \mathcal{P}".
  p. 250, I. -7: in replace courrences of "P " by " \mathcal{P}".
  p. 250, I. -7: in replace courrences of "P " by " \mathcal{P}".
  p. 250, I. -7: in replace courrences of "P " by " \mathcal{P}".
  p. 250, I. -1: replace 2 occurrences of "P " by " \mathcal{P}".
  p. 250, I. -1: replace 2 occurrences of "P " by " \mathcal{P}".
  p. 251, I. 1: following "Consider ... commute." insert " (Hint: first prove that a diagram of left adjoints commutes up to isomorphism if and only if the corresponding diagram consisting of their right adjoints does so.)"

- Chapter 10: p. 257, I. -5: following "thing" insert "as" to read "exactly the same thing as a ...'
- Index:

The numbering in the index is consistently off by 2 pages for all entries referring to chapters 9 and 10, pp. 207--277.