

Errata of *Logical Foundations of Mathematics and Computational Complexity*

January 24, 2021

page 17, line 8. “*first-order*” should be “*First order*”.

page 19, line 13. $Im(g)$ should be $Im(f)$.

page 20, item 8 should be “*closed under arbitrary unions and finite intersections*” (or one should replace open sets with closed sets).

page 21, item 12. “*function is mapping*” should be “*function is a mapping*”.

page 29, line -6. “*a like*” should be “*like*” .

page 32, line -13. “*equal to the union*” should be “*equal to the cardinality of the union*”.

page 38, paragraph 3. The so called Epimenides paradox is not a paradox unless we make an unreasonable assumption that all people (or at least all Cretans) either always tell truth or always lie. One can also argue that even with this assumption it is not a paradox, because if somebody makes a contradictory statement, it cannot be true, hence it is a lie.

page 41, line -4. “*the that*” should be “*that the*” .

page 47, line -12. “*two kind*” should be “*two kinds*”.

page 47, line -3. “*the basic properties*” should be “*some basic properties*”

page 50, line -9. “*The set axioms*” should be “*The set of axioms*”

page 53, lines 1,2. One should better say that (u_1, u_2) is an edge and u_{i+1} is connected by an edge only to u_i and u_{i+2} .

page 57, line -14. “*This not*” should be “*This is not*”.

page 58, line -8. “*This is may*” should be “*This may*”.

page 132 “*Courtesy of*”

page 133 “completeness and decidability appear”

page 145 The existence of large rotating black holes is now considered a true fact.

page 182 In the footnote, *Theorem 1*.

page 185 Countable ordinals should be defined.

page 186 “the previous structure is repeated between the boxes” should be “the previous structure is repeated inside the boxes”.

page 194 The topology on ordinal numbers should be defined.

page 207 I0 in the diagram should be I3 (I0 is not mentioned in the text).

page 276 “literary” should be “literally”

page 307 The sentence “Recall that this means that the set of axioms is decidable.” is redundant.

page 311 “ $x \in X$ if and only $f(x) \in Y$ ”

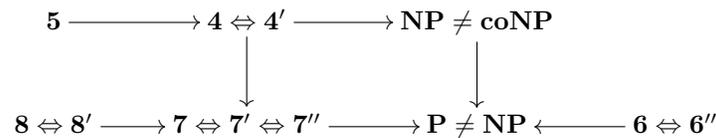
page 326 The heuristic estimate of the convergence of Collatz sequences *is correct*, but not explained correctly. If we count the *arithmetic* mean, then the numbers decrease by the factor

$$\frac{1}{2} \cdot \frac{1}{2} + \frac{1}{4} \cdot \frac{1}{4} + \frac{1}{8} \cdot \frac{1}{8} \dots = \frac{1}{3},$$

before we get another odd one. However, we need to estimate what happens after repeating this process. So we need to compute the *geometric* mean. Thus the analysis based on the average length of the suffix of zeros is correct.

page 492 $2^{-K(x)-c} \leq \mathbf{m}(x) \leq 2^{-K(x)+c}$

page 572 Due to renumbering the conjectures during typesetting the numbers in the diagram are wrong. One has to add 3 to obtain the correct numbers. Here is the correct diagram:



page 579 In $(7'') \Rightarrow (7')$, “falsifies (7)” should be “falsifies (7'’)”.

page 642 It should be added that σ must be a Σ_1 -formula.

page 658 The second formula should be $d = \frac{1}{2}gt^2$ and below “velocity” should be “distance”.

page 668 “Three Brouwer’s papers” should be “Three Brouwer papers”; “Churches” should be “Church’s”.

I am indebted to Lukáš Folwarczný, Justin Meiners, Hunter Monroe, and Stanislav Speranski for the corrections they sent me. If you spot any errors that are not listed above (there are certainly many), I will appreciate very very much if you send them to pudlak@math.cas.cz .