Correction on book from 2023

Some of these may have already been made, but it's easier to just gather them all here and check that later.

1 Comments From Rin Saito, Chapters 0 and 1

1. Ack Rin Saito
2. p. 24, line 9: Put a period at the end of "Karp reductions".
3. p. 27, line 1: Delete "0-1 Programming" at the beginning of the sentence.
4. p. 40, line 4 in section 0.19: AHis SHOULD BE AH is.
5. p. 51, line 3 in Proof 2: ¬negx SHOULD BE ¬¬x.
6. p. 51, line 3 in Proof 3: Put a period at the end of "from ¬x to x".
7. p. 51, line -1: Lowercase "variable".
8. p. 52, line 1 in Proof 2: "following If" SHOULD BE "following: if".
9. p. 53, line -3: "form we produce" SHOULD BE "we produce".
10. p. 56, line 3: "three literals set to T" SHOULD BE "three literals set to True".
11. p. 58, line 2: "NP complete" SHOULD BE "NP-complete".
12. p. 74, line 5 in section 1.7: I don't know what you want to say. What does "a and connect" mean?.
13. p. 76, line 1: "NOT gadgetthat" SHOULD BE "NOT gadget that".
14. p. 76, line 3: "to be true or F" SHOULD BE "to be true or false".
15. p. 78, line 1 in Definition 1.45: "a boolean Formula" SHOULD BE "a boolean formula".
16. p. 79, line 2 in Definition 1.50: Q SHOULD BE Q.
17. p. 80, item 2 in Definition 1.50: Delete "E*A*" at the end of the sentence.
18. p. 80, item 3 in Definition 1.50: Delete "unary" at the end of the sentence.
19. I recommend that you unify the naming rules for the problems. For example, in your book, the Vertex Cover problem is denoted by "vertex cover", on the other hand, the Independent Set problem is denoted by "Independent Set". If there is no reason, you write the Vertex Cover problem by "Vertex Cover".

20. If possible, please make the text in the figures larger. For example, in Figure 1.13, I cannot read the text at the bottom.
2 Comments From Rin Saito, Chapters 2,4

1. p83, line 1 in Definition 2.1: degree of a graph’ SHOULD BE degree of a graph (delete the apostrophe)
2. p88, line 1 in Definition 2.3: Let $g_{ik} \geq 0$. SHOULD BE Let $g, k \geq 0$.
3. p88, line 2 in Definition 2.3: genus $g_{i}$ SHOULD BE genus $g$ if (insert a space.)
4. p123, line 1 in Chapter Summary 1: ”state they they are” SHOULD BE ”state they are”.
5. p124, line 5 in Problem Definition: a graph SHOULD BE A graph.
6. p124, line 8 in Problem Definition: insert a line break before QUESTION.
8. p143, line -2: ”vertex coveris” SHOULD BE ”vertex cover is”.
9. p144, line 4 in Problem Definition about vertex cover: change a period to a colon after ”for every $e \in E$”.
10. p144, line 1 in Theorem 5.1: delete the exclamation mark.
11. p145, line 2 in Problem Definition about Steiner Tree: add a integer k as an instance.

3 Corrections from Gaétan Berthe

1. Ack Gaétan Berthe.
2. Exercise 1.4, using clause in a DNF formula was not defined.
3. Theorem 1.41, case 6, ”over mod 2” I’m not sure this is a correct way to phrase it.
4. Example 1.46. second example ”graph restricted to $x_1, \ldots, x_6$ is symmetric” not sure symmetric is the best adjective to use. See Wikipedia entry
https://en.wikipedia.org/wiki/Symmetric_graph
5. Around Theorem 2.22 it’s a bit messy, with a repetition of the sentence: ”Knuth & Raghunathan [KR92] … Planar Rectilinear 3SAT is NP-complete.
6. - Definition 4.14. (Slitherlink) there is a ]index at the start.
7. - Definition 7.23. in the, note, this should be: " is asking whether $G$ is $a$-colorable"

- Definition 9.7. the functions (expect OPT) should have $|x|$ as parameters not $x$: $\log |x|, p(|x|)$ etc.

4 Misc

Look at every single Figure and determine if it can be a Table instead. Then have Auguste fix the excel spread sheet.

Look at the further research section and get rid of some of the dumber problems.