1 Overview

I have split these notes into two main parts. In section 2, there are some general recommendations, or bugs from the chapter. In section 3, I have listed some other results on counting problems.

2 General Improvements

- In the note after Definition 13.1.1, there is a [ before y which is not closed.

- Before Definition 13.2.3, it says "The next definition is due to Erik Demaine.", one of the authors of the paper. I am not sure why this is. If it is because he created the original notion of the definition, this could be made more clear.

- Just before Theorem 13.3.1, "Are there sets ... is #P-complete." should be a question "... #P-complete?"

- In Theorem 13.3.1, part 1, there is a typo. "Eucler Circuit" should be "Euler Circuit"

- In Exercise 13.5.2, is "#PLthSAT" the correct notation? Or should it be "#PL-3SAT". The second is more in keeping with the non-# notation

- In Figure 13.3 caption, it says "NEED FIGURE HERE". Probably known already, but in case it has been missed I include it here
• In the proof of Theorem 13.6.1, the reference for Takahiro is just a ?. Additionally, this line goes off the side of the page.

• In Exercise 13.8.3, part 2, I think this result would be better to include directly, not as an exercise.

• In the proof of Theorem 13.8.4, there is a Figure "TO BE ADDED LATER". Again, inclusion here in case this was not known. There is also one in the proof of Theorem 13.8.6.

• In Definition 13.9.1, problems such as #MM are not defined. It is not immediately clear if this the number of maximal matchings in a graph, or the size of the maximal matching? This would be good to clarify.

• In Definition 13.10.1, there should be a closed bracket after "(called the threshold".

• In Section 13.10, it would be good to include some intuition about why #2-SAT is #P-complete, even though 2-SAT is in P.

3 Other Problems

• Number of k-colorings for a graph G.

• Number of linear extensions for a poset [1]

• #DNF - how many satisfying assignments are there for a DNF formula? [2]

References

