Weak Heaps

The notion of Weak Heaps came out of this class back in the 1990s when Dr. Dutton (Emeritus professor at UCF) conceived of the properties and algorithms associated with Weak Heaps. The paper that you will need to read on this topic is DuttonWeakHeaps.pdf (the paper that introduced these structures). Another paper EdelkampWeakHeaps.pdf is included for those who want to read it for more context.

Your task is the following:

- Understand in detail the Weak Heap Properties, its Implementation Algorithms, its Use of Reverse Bits, and its Improvements to Sort.
- Write a report on this topic. This needs to include examples you create and explain, not ones from existing papers or websites.
- The implementation can be written in c, c++, or java. Make sure it can be compiled on Replit. The report and all the files should be in a folder (and subfolders) and compressed into a zip or rar file.
- Submit the file online by the due date.